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# THE ARCHITECTVRAL RECORD

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January 1915



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LIVING-ROOM—OWN HOUSE IN LIME STREET, BOSTON. RICHARD ARNOLD FISHER, ARCHITECT.

# THE ARCHITECTVRAL RECORD

JANVARY, 1915

VOLVME XXXVII NVMBER I


## The ARCHITECTVRAL RECLAMATION OF SMALL AREAS IN CITIES

By Harold D. Eberlein

MAKING the most of all available space in our cities is a matter of serious import. Indeed, in many cases, it is more than a matter of serious import; it is a matter, rather, of imperative necessity. The necessity is occasioned and emphasized by the growing congestion of population, a population that is increasing by leaps and bounds, and by the consequent sharp advance in real estate values. In not a few instances the problem of making each square foot of space render its utmost service and bring in the largest possible financial return has become intensely acute. The architectural reclamation of neighborhoods or parts of neighborhoods whose possibilities have hitherto been ignored, offers one valuable means of relieving the strain.

The pressure is felt in business and residential districts alike. In the business world, motives of convenience and the stress of competition dictate a comparatively restricted area of activity as the eligible location for those whose commercial or professional success depends largely upon ease and dispatch of communication and personal contact with their customers, clients or associates. Modern transit facilities have made it possible to realize this tendency to rush to one focal point and, as a necessary result, the skyscraper has been evolved to relieve the situation in some degree.

On the other hand—and here lies our present concern—in urban residential districts the pressure has been present for some time past, is steadily becoming more and more insistent and refuses to be satisfied with the apartment house or




GROUP OF TEN SMALL HOUSES BUILT
FOR BRIMMER STREET TRUST, BOSTON.
RICHARD ARNOLD FISHER, ARCHITECT.

flat as the only practicable solution of the difficulty. While highly organized methods of transportation have greatly fostered city growth and assured ease of communication between the various sections, the fact remains that certain centrally located neighborhoods are deemed particularly desirable for purposes of residence, whether from considerations of convenience, of personal preference or, perhaps, from sentimental attachment. Concurrently with the well recognized "back to the country" movement, there is also a movement in the opposite direction that sometimes escapes notice, a "back to the centre of the city" movement that leads people to seek dwelling places now where a few years ago they would not have thought for a moment of looking. Apartments and flats are not to their taste and yet, oftentimes, their means are not sufficient to warrant the purchase or upkeep of a large house on one of the fashionable residential streets. Consequently they must needs turn their attention to the intensive use of space and look to the architectural reclamation of the unimproved areas in small back streets for the one feasible and satisfactory solution of the problem that confronts them. Thus, by turning to good account the areal by-product of an older and more prodigal method of city building when, as yet, there was no perplexing congestion and hence no particular need to economize ground room, they both enhance the desirability and value of property and accomplish their wishes in the matter of location.

Others who are thoroughly interested in this process of architectural reclamation are those in easy but not affluent circumstances who prefer to live in a comfortable but modest way in the heart of the city, where all things in which they are interested, whether pertaining to business or pleasure, are readily accessible by a few minutes' walk, rather than have a more extensive establishment in the suburbs or country where residence, however agreeable, entails spending daily a considerable time in going back and forth. Yet others, of ample means, maintain country places where they live during the greater part of the year and do most of their entertaining but choose to live in the city during the winter and early spring and do not care to keep up large and expensive houses which it suits them to occupy during only a limited period. When they are in the city they wish to be in the midst of it where the social life centres. All classes are thoroughly representative of the "back to the city" movement.

Opportunities for the felicitous architectural reclamation of modest neighborhoods and streets are plentiful in the older and larger cities of our Eastern and Middle states. Boston, New York, Philadelphia and Baltimore are full of "backwaters" from the constant stream of traffic that surges through the main thoroughfares. Thousands of people pass within a stone's throw of them every day without being aware of their existence merely because they happen to be a few paces out of the beaten track. Those who are wise enough to search them out and make their homes there enjoy a rare measure of privacy and yet, at the same time, are in the very heart of all urban activity. In their unimproved state these places, it is true, are often far from prepossessing. The sites of potential development may be occupied by stables, blacksmith shops or tiny dilapidated houses of the most flimsy and tumbledown character or there may be small dwellings, old but structurally sound, that need only judicious remodelling, and sometimes but little of it, to render them thoroughly habitable, comfortable and highly attractive. In either case, whether architectural reclamation involves building anew or only a degree of alteration and re-adjustment, it requires but the power to visualize, coupled with ordinary sound real estate judgment, to be able to appreciate the waiting opportunities. While many possibilities in this direction have been eagerly seized upon and made the most of in the cities mentioned, it is safe to say that the field open for this sort of improvement has been scarcely more than entered upon.

In support of this statement may be cited the facts as they appear, both in



LIVING ROOM AND GALLERY—OWN HOUSE, LIME STREET, BOSTON.
Richard Arnold Fisher, Architect.

the shape of actual achievements in architectural reclamation and in the physical possibility that invites improvement. In every American city whose age has passed the century mark there may be discovered attaching to certain favored localities a distinctive atmosphere, subtle to be sure, and well-nigh baffling of analysis, but strongly individual, nevertheless, and not to be ignored as a negligible influence. Beacon Hill in Boston has such an atmosphere of its own and has it to a marked degree. It is altogether too elusive to define in terms of logical exactitude, but anyone who has spent much time in Boston cannot but be conscious of it, especially while passing along Mount Vernon street or through Louisburg Square.

Boston people have felt this mysterious force attracting them and there has been a noticeable movement back to that district on the part of those who prefer to live there in modest elegance rather than in ampler surroundings in a locality which the casual observer, unaware of Beacon Hill's pervasive charm, might deem physically more attractive. Quite apart, however, from this indefinable but potent allurement, Beacon Hill has very material advantages to offer in its quiet and privacy in the heart of the city, along with ready accessibility to all business and social activities and in its proximity to the Common, the Public Gardens and the Esplanade. It only remains to find eligible sites for architectural improvement, and these are not wanting in the many small streets that the oversight of a former generation passed by in a period of rapid expansion to the west along Beacon street, Commonwealth avenue, Marlborough street and other streets in that neighborhood. What has actually been accomplished in the way of rendering the small streets of Beacon Hill attractive for residential purposes we shall see in following paragraphs.



DETAIL OF LIVING ROOM AND STAIR—
OWN HOUSE, LIME STREET, BOSTON.
RICHARD ARNOLD FISHER, ARCHITECT.



ENTRANCE HALL—OWN HOUSE IN LIME STREET, BOSTON, RICHARD ARNOLD FISHER, ARCHITECT.



HALLWAY FROM DINING-ROOM TO STAIRS —OWN HOUSE IN LIME STREET, BOSTON. RICHARD ARNOLD FISHER, ARCHITECT.



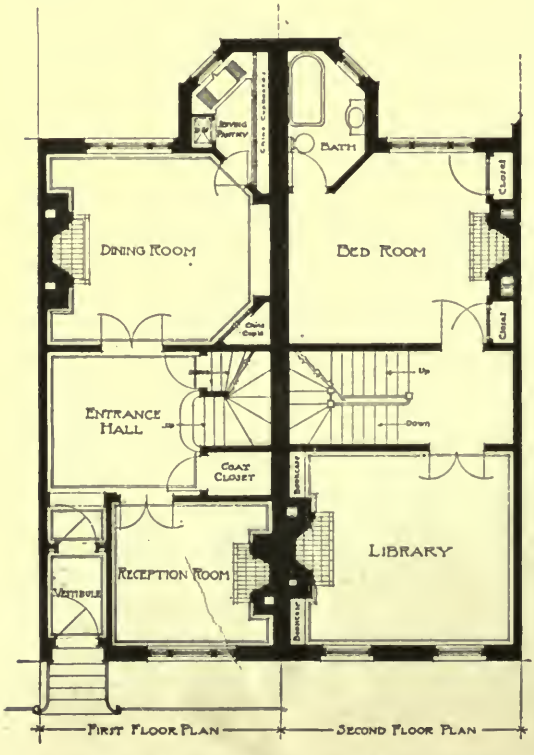
HALL FIREPLACE—OWN HOUSE IN LIME STREET, BOSTON. RICHARD



LIVING-ROOM—OWN HOUSE IN LIME STREET, BOSTON. RICHARD ARNOLD FISHER, ARCHITECT.

The beginning already made has many useful lessons to teach and augurs well for the future of architectural and economic development upon the lines marked out.

Alluding once more to the influence of a sentimental attachment or of a characteristic local atmosphere and charm in directing attention to the reclamation of neighborhoods and streets that the march of improvement and expansion has swept past and left untouched, we turn to examine Philadelphia's opportunities for architectural renewal of unproductive or decadent areas. Architectural phenomena often find their ultimate explanation in social or economic conditions and in the present instance a slight digression is necessary to show why the strong desire to live within a certain area has started a train of remodelling and made architectural reclamation the object of serious effort.




TYPICAL FLOOR PLAN IN BRIMMER STREET HOUSES.
Richard Arnold Fisher, Architect.

No one of Philadelphia's many foibles and traditionary prejudices causes more amusement or perplexity in the minds of non-Philadelphians than the generally accepted convention that one must live south of Market street in order to be *au fait* socially or even respectable. No end of fun has been poked at Philadelphia on this score. The fact, however, remains; the feeling does exist and it would be an easy matter to pick out a number of instances in which *nouveau riche* families, hailing from north of the mystic line drawn along the middle of Market street, have sought a place of abode on Walnut, Locust or Spruce streets or on one of the eligible cross streets in their vicinity as a first step toward winning a quasi-recognition in polite society. In the early days it was not so and it would not be difficult even now to find on the taboo north side plenty of estimable people of impeccable birth and breeding whom the veriest snob would kow-tow to did he know their family antecedents, while Arch street, well within the memory of the present generation, was still a stronghold of the old Quaker element.

One can readily see why the coming of the elevated railroad and manufacturing establishments made a difference in some districts, but others that are physically acceptable languish under the blight of social ineligibility, while places of less outward attraction are eagerly sought for the distinction that residence in them is supposed to confer. One can also readily see why the really old section of the city, with its many remaining landmarks and characteristics of Georgian date, should exert a powerful charm, but to understand what must to some seem merely a caprice of snobbery one must know a bit of history, know that many years ago it so chanced that the lower ends of Chestnut, Walnut, Spruce and Pine streets with the intersecting cross streets in the vicinity constituted what may be termed the "court end" of town, that the course of residential progress lay in a westward line as business gradually monopolized the east and, finally, that in Philadelphia and Boston, the "two English cities in



LIVING-ROOM—OWN HOUSE IN LIME STREET, BOSTON. RICHARD ARNOLD FISHER, ARCHITECT.



TYPICAL PARLOR OF SMALL HOUSE IN GROUP—
LIME AND BRIMMER STREET HOUSES, BOSTON



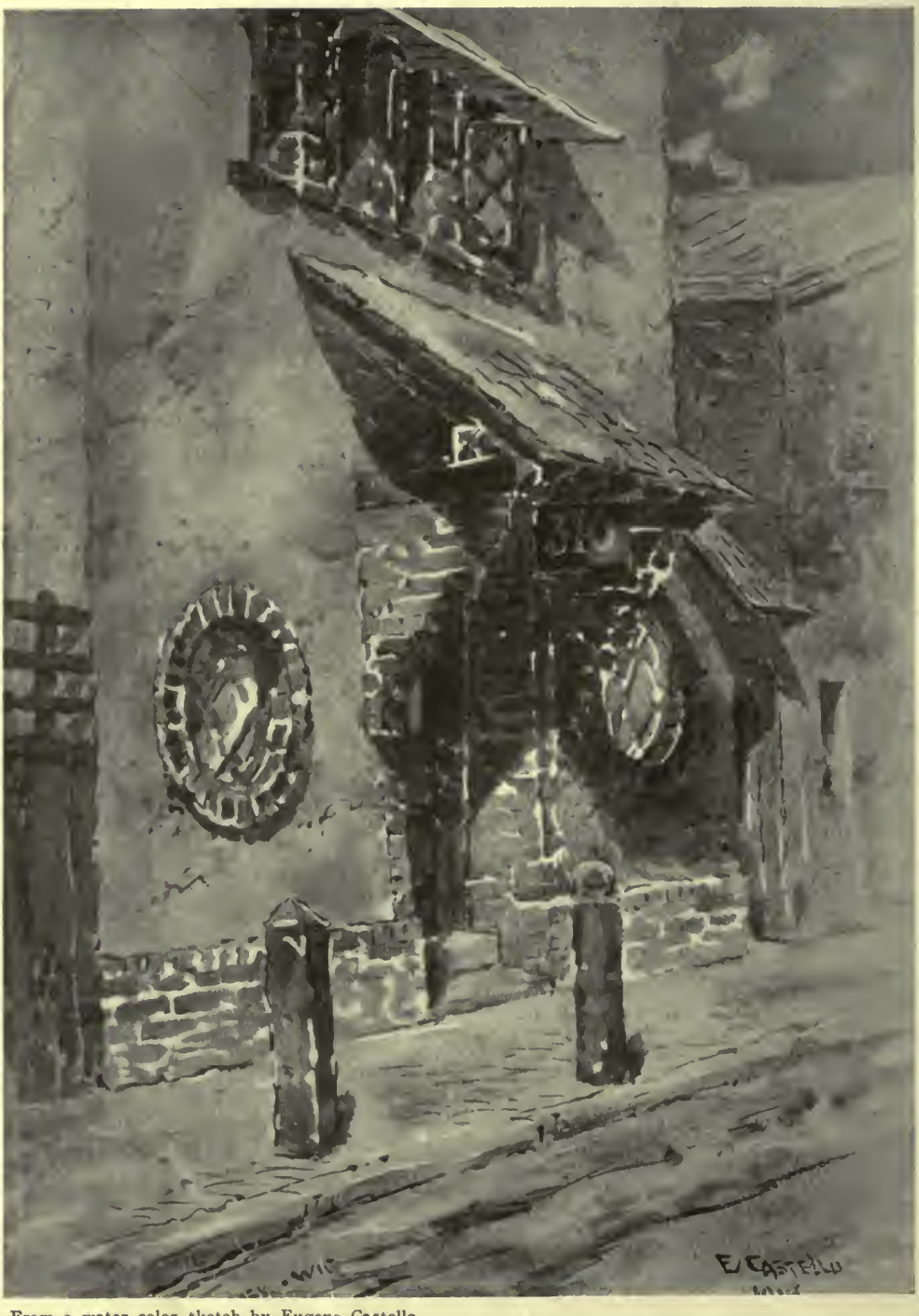
SMALL HOUSES IN MT. VERNON STREET, BOSTON. RICHARD ARNOLD FISHER, ARCHITECT.



FRANKLIN INN CLUB — DEAN AND ST. JAMES'S STREETS, PHILADELPHIA. FRANCIS D. CALDWELL, ARCHITECT.



DOORWAY DETAIL—FRANKLIN INN CLUB, PHILADELPHIA. FRANCIS D. CALDWELL, ARCHITECT.



From a water color sketch by Eugene Castello.

MASK AND WIG CLUB, QUINCE STREET, BELOW SPRUCE, PHILADELPHIA. C. L. BORIE, ARCHITECT.




POOR RICHARD CLUB —
DEAN STREET, PHILADELPHIA.

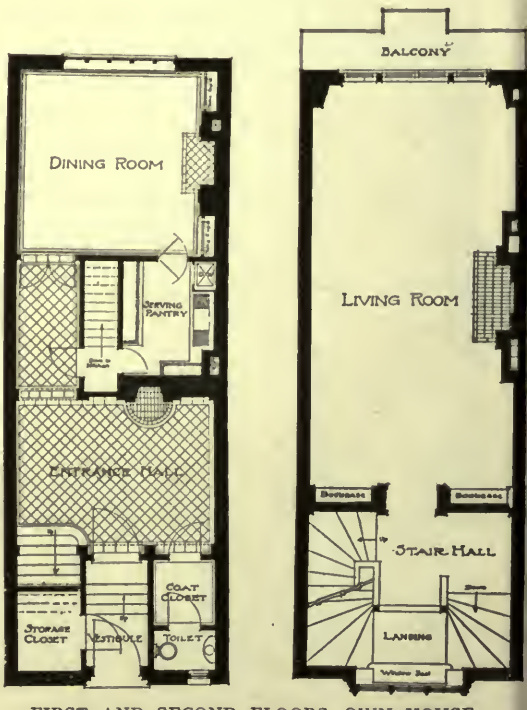
America" as Freeman called them, a strong residuary leaven of British conservatism and devotion to tradition has always largely influenced the reckoning of social status by an hereditary standard of birth and breeding rather than by the fortuitous standard of mere wealth.

One may pooh-pooh this influence and this explanation if one pleases, but the proof of its reality and power is to be found in real estate values in that section of the city where so many of the descendants of those who used to live in the "court end" of the city have elected to have their present place of abode. Thus also may be explained the tendency to the architectural reclamation of the small streets in that favored neighborhood and therein lies the interest for us and the connection with the subject under discussion that the foregoing explanation was needed to elucidate. Having grasped the complex nature of the motives that prompt to the architectural regeneration of the small streets within a restricted area, it remains to note the present condition of those streets, what opportunities they offer and what has been thus far accomplished.

According to William Penn's scheme the city was laid out like a gridiron with the principal thoroughfares intersecting each other at right angles. This gridiron plan was still further cross-hatched by numerous small streets or alleys running, also at right angles, between the larger streets. While there was still plenty of room for development along the principal streets these small back streets were given over to stables and the dwellings of mechanics, exceedingly simple and unpretentious, but soundly built and oftentimes with a touch of that modest architectural elegance that remained as a heritage from the Georgian builders.

In not a few instances these little houses have fallen into the hands of an extremely undesirable class of occupants and occasionally a condition of squalor and dilapidation prevails so that their presence within a few feet of homes of wealth and refinement is altogether anomalous even though the occupants of the large houses turn their backs and forget the existence of the lesser homes until a brawl of drunken negroes or some similar disturbance at their back gates unpleasantly compels their attention for a moment. The source of annoyance, however, contains the germs of remedy and the remedy has begun to appear in a process of architectural reclamation that is assuming such proportions that we cannot afford to overlook its record and the forecast of future development that it suggests.

Following the order in which the accompanying illustrations occur, the reader may first see a part of the work of reclamation already accomplished in Boston after the plans of Richard Arnold Fisher, architect. The houses illustrated are on Lime and Brimmer streets in the Beacon Hill section, and were erected by the Brimmer Street Trust upon ground that was formerly occupied by stables, small blacksmith




FIRST AND SECOND FLOORS—OWN HOUSE IN LIME STREET, BOSTON.
Richard Arnold Fisher, Architect.



TYPICAL SMALL HOUSE—
SMALL STREET IN OLD PART
OF CITY, PHILADELPHIA.

shops and other little buildings of tumbledown aspect and dilapidated condition. In this case the reclamation had to be effected entirely by demolition and building anew.

The problem presented was interesting in many ways, but particularly in respect of the size of the lots. They were originally small and it was decided to keep them so. The average size is eighteen feet by sixty feet. Notwithstanding this limitation excellent results have been gained. Regarded from the exterior, the houses in both Lime and Brimmer streets present a reassuring dignity of mien that dispels any apprehensive uncertainty as to the possibility of making the small house an architectural factor of importance and interest. Studied from within, they show praiseworthy ingenuity in getting a great deal of space within a very small compass. As may be imagined, there is no allowance for waste room.

Although the frontage of the block of houses on Brimmer street is treated as practically one architectural unit, there is enough individuality in the treatment of the several houses to preclude the charge of monotony. Furthermore, considered together, their number supplies a cumulative force and they acquire the effect of a large building. The mode of architectural expression chosen is quite in keeping, through its late Georgian characteristics, with the rest of the larger houses in the surrounding district which nearly all show unmistakable traces of Bulfinch influence or the marks of a slightly earlier period. No startling or flighty effects have been attempted and the whole row is instinct with an air of well-mannered sanity and substantial comfort. Before passing on to other points, one cannot fail to note with pleasure several agreeable touches of interest that have been added in the shape of the iron area and step railings and the balustered piercings of the brick coping on the two projecting end houses. This same coping is reminiscent of the British method of employing such a device to screen dormer windows and the slope of the roof from view and present a finished front to the street.

With the Lime street houses, just around the corner from those in Brimmer street, there was the same limitation in the size of the lots, all of which are small. In this connection the architect's own house is particularly significant, as Mr. Fisher designed it largely "as an object lesson to show how a house can be spacious in fact as well as in appearance on a very small lot."

Upon examining carefully the floor plans and the illustrations, the reader will see how admirably Mr. Fisher has succeeded in proving this thesis. There is nothing cramped in the appearance of the exterior and within there is such an agreeable atmosphere of both breadth and height that no one would fancy the architect had been hampered by the strait bounds of the property lines. The house shows conclusively that dignity and spaciousness are not matters necessarily of size. Most of those who read this can no doubt recall upon a moment's reflection, little rooms they have seen that seem large and full of dignity and, on the other hand, large rooms that seem small. If they analyze their impressions they will see how all-important is the consideration of relative scale and proportions. Mr. Fisher has so managed his proportions and detail that all contribute to the effect of spaciousness. He has achieved his purpose with restraint and without apparent effort and is thereby entitled to all the more credit in coping with a difficult problem where any evidence of palpable striving for effect or any resort to "stunty" expedients would have been fatal to the result.

Besides showing that dignity and space are both attainable in a small city house, Mr. Fisher has adroitly contrived his rooms so that they furnish well and thereby contribute to the general impression of amplitude. Free, unbroken wall spaces help greatly in this respect, while the large mullioned window at the end of the living-room, consistent with the seventeenth century English architecture of the rest of the house, admits a flood of light and emphasizes the principle, which we in America are too apt to ignore, of admitting an abundance of uncurtained light at one place. Inci-



LIVING ROOM—TYPICAL OLD SMALL HOUSE, PHILADELPHIA.



MANTEL DETAIL—TYPICAL OLD SMALL HOUSE, PHILADELPHIA.

dentally, it may be added that having secured favorable conditions for effective furnishing, Mr. Fisher has shown excellent judgment in the choice and arrangement of his furniture in keeping with the architectural character of its setting.

Another point to be borne in mind in connection with small houses of the type under consideration is that it is better to have a few rooms, well proportioned and of good dimensions, rather than a larger number of less effective rooms some of which are not used to the full extent that they might be. With fewer rooms, carefully planned to meet all domestic needs, it is possible to use fully every available inch of space, as must be the case if the small, compact house is to be a thorough success. Many of the best houses of our own Colonial period, and large houses at that, had comparatively few rooms, far fewer than would have been the case in most houses of equal size designed today, but our forebears found it not inconvenient and managed to observe with ease all the amenities of polite social life and we can readily accommodate our manner of living to the same conditions.

The two small houses in Mt. Vernon street whose exteriors are shown in one of the illustrations, also designed by Mr. Fisher, are full of interest and suggestiveness for the treatment of such problems. They are almost severely plain and unpretentious, but several pleasing and effective touches, compatible with their studied simplicity, have been added in the form of semi-circular balconies with plain iron railings before the tall second floor windows, the recessed bays in which the windows are set and the stone string course crossing the brick wall at the spring of the bay arches. On comparing them, however, with the block of houses at the corner of Lime and Brimmer streets, one cannot help feeling how much more satisfactory it is to deal with a reclamation project of some extent rather than with scattered cases. It is often urged that it is scarcely worth while, from a financial point of view, for a busy architect to bother with small houses. In isolated cases this may or may not be true, but that objection cannot validly be made where the operation covers a considerable extent of ground and the architect's fee is not a picayune affair. Furthermore, such an operation provides a favorable opportunity for constructive handling that is impossible where there is only a very small frontage to work upon. With reference to the cost of the houses in Lime and Brimmer streets, it is not permitted to state the exact figures but only to say that the outlay involved was extremely moderate, altogether commensurate with the size of the lots and quite within the reach of those to whom residence in reclaimed districts offers attractions.

Turning now to examine the progress of the architectural reclamation of the small streets in Philadelphia, we find that the process has been in great measure sporadic. One of the few streets that has shown any consistent and continuous development in this direction is Dean street, or Camac, as it is now called, running south from Walnut between Twelfth and Thirteenth and, in its reclaimed portion, almost wholly given over to small clubs. There are the Business and Professional Men's Club, the Franklin Inn Club and the Stragglers' Club, all occupying old buildings that have been more or less remodelled. The most pleasing architecturally and the one to which most has been done is the Franklin Inn Club, situated at the intersection of Dean and St. James streets, neither of which is wide enough to accommodate more than one vehicle. This circumstance will explain the presence of the green fender posts along the curb to restrain a carter's temptation to drive up on the narrow sidewalk upon meeting a wagon coming in the opposite direction instead of one or the other having to back ungracefully out of the street. These posts, besides fulfilling a utilitarian purpose, serve as a reminder of the Philadelphia of Franklin's days, for they are the successors of those mentioned by William Black, one of the Virginia Commissioners who visited Philadelphia in 1744 and recorded in his diary after having wined and



REMODELED FRONTS—OLD HOUSES IN LATIMER STREET, PHILADELPHIA.



SMALL DWELLING HOUSES—RECLAIMED PORTION OF SMEDLEY ST., PHILADELPHIA.

dined too well upon one occasion: "I grop'd my way to where I lodged after having Butted against some Posts on the Sides of the Pavement."

The reclamation of the Franklin Inn Club was more in the nature of a restoration than anythinge else. The general contour of the old dwelling houses from which it was remodelled suggested the treatment adopted. The exterior was coated with grey roughcast stucco, throwing the white doorway, window sashes and cornice and dark green shutters into strong contrast. Beside the doorway hangs a bronze shingle bearing on either side in relief the head of Benjamin Franklin, modelled by Dr. R. Tait MacKenzie.

In the next block, beyond Locust street, a whole row of small dwelling houses of early date has been converted into club houses beginning with the quarters of the Sketch Club at the corner of Latimer street and including the Coin d'Or, the Poor Richard Club and the Plastic Club. Little has been done to the exteriors of these houses save painting and the making of necessary repairs. It is gratifying to note with reference to these clubs that the opportunity for improvement presented by the backyards has not been neglected.

The other instance in which a consistent effort at reclamation has been made is in Carlisle street, a thoroughfare running for one block from Pine street to Lombard. Here a row of old and uninviting brick dwelling houses was taken in hand by a trust company, repaired, slightly altered and painted so as to be thoroughly attractive and then let at a reasonable rental to desirable tenants. In some cases the alterations were designed to suit the wishes of the tenants. The experiment proved so successful and the character of the neighborhood was made so agreeable that the row has been dubbed, not inappropriately, "Pomander Walk."

Other attempts at reclamation, though scattered, have been numerous and successful. Many of the small houses are so staunchly built that, so far as the exteriors are concerned, they require only well-designed woodwork for the windows and doors, paint, the addition of proper cornices and any other minor items of embellishment that personal taste may dictate, to transform them into desirable places of residence. As a fairly representative example of this sort of thing may be cited the houses in Latimer street. At the left side of the illustration may be seen what the houses were before reclamation, while at the right the result achieved at little cost speaks for itself. The reclamation of these houses is typical of what has been done with scores of others.

The amount of interior alteration depends, of course, upon the inclination of the occupants, but time and again the inside arrangements are susceptible of easy readjustment and the woodwork is so good that little has to be done beyond painting and papering and the addition of bathrooms and plumbing. The little house of which the exterior and interior and a mantel detail are shown required only such items, and it is only one of many. It is hardly fair to cite this instance, where so little has been done, as a case of architectural reclamation, but it serves to show what a groundwork there is to work upon and how rich it is in promise under sympathetic handling.

Altogether apart from architectural considerations, in this process of redeeming the oversight of a former generation, must be reckoned the marked advance in real estate values invariably consequent upon the improvement of a neighborhood. In one small Philadelphia street of the sort previously mentioned there has been a notable and characteristic example of healthy and stable appreciation in the value of property.

For obvious reasons it is not expedient to name the street or indicate the individual houses that have been factors in this desirable change, but if anyone is sufficiently interested to inquire of reputable real estate brokers, the facts in each specific instance, backed up by exact figures, may readily be learned. Six years ago the property values in this particular street were moderately low, a normal condition for streets of this character. At that time began the process of reclamation through remodelling and the work has

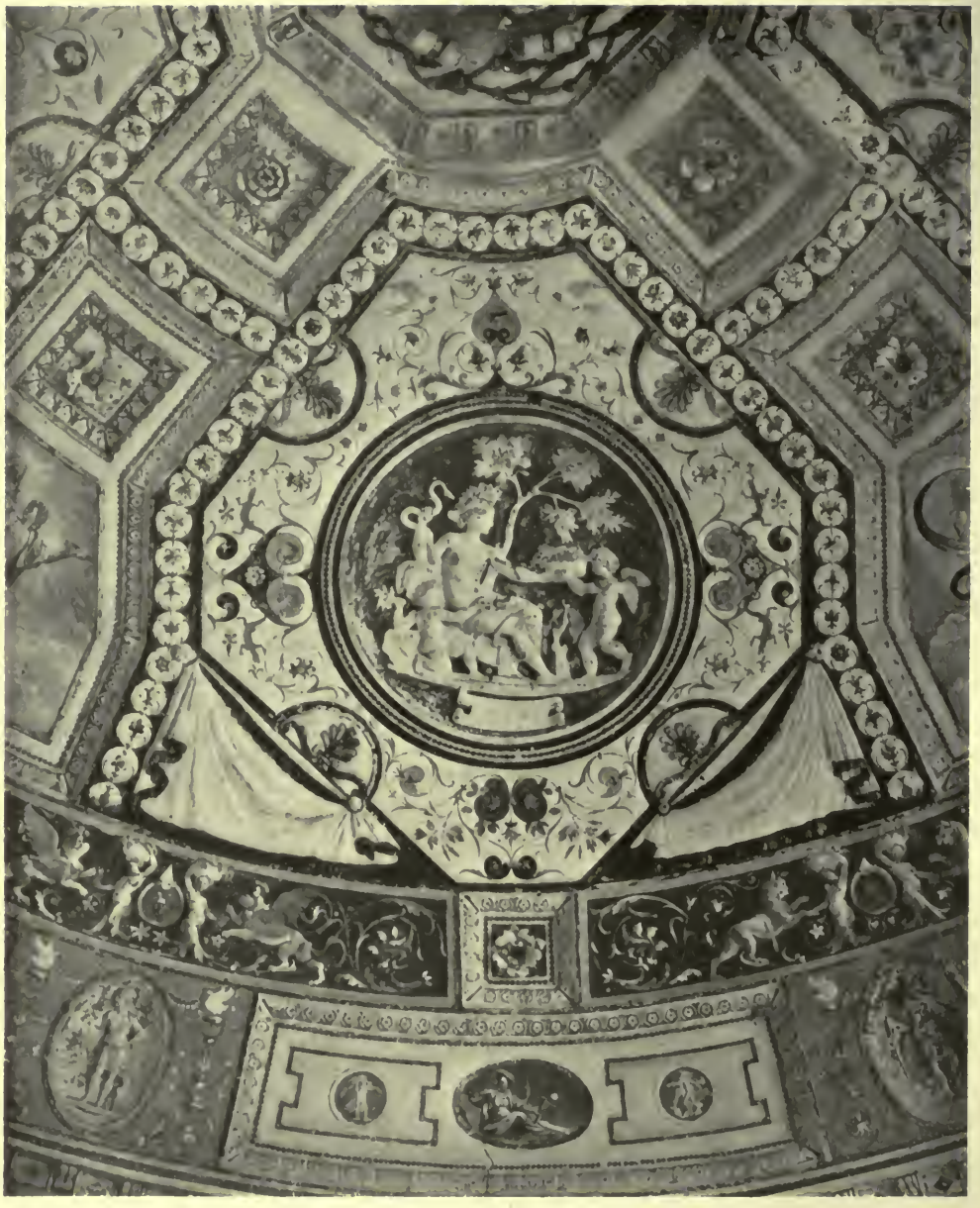


OFFICE ON A STABLE SITE—OWN OFFICE, JUNIPER AND CHANCELLOR STREETS, PHILADELPHIA.
Mellor & Meigs, Architects.

continued since then with more or less regularity. During this period real estate values have slightly more than doubled, and, in the case of one property, the value has almost trebled. No more convincing proof of the commercial utility of architectural reclamation could be asked and the argument ought to appeal to those who are in the narrow habit of cavilling at anything as impracticable and visionary that cannot afford a demonstration in dollars and cents. Experience has proved time and time again, that it is well worth while, both architecturally and financially, to reclaim the small street and the tangible proofs are at hand in an enduring form.

Whether the process of reclamation consists of remodelling or of building altogether anew, it is a work worthy the serious effort of architects, as may be judged by the instances cited in Philadelphia and Boston, if it be one of the functions of architecture to render our every-day surroundings comely and our cities consistently and universally attractive without blotches and eyesores to detract from the beauty of the finer products of architectural endeavor.

The only obstacle to venturing upon the reclamation of small streets is the uncertainty regarding one's neighbors. In the cut showing the small dwelling houses on Smedley street may be seen an example of this. This objection, however, can be readily overcome by co-operation or by getting a trust company or some reliable corporation to undertake the project of redeeming a whole neighborhood, and the results so far accomplished indicate plainly that the game is worth the candle.



DETAIL OF DOME IN LOGGIA—
VILLA MADAMA, ROME.

# THE VILLA MADAMA

## TEXT AND MEASVRED DRAWINGS BY HOWARD W. GERMANN

### ARTICLE II.

THE loggia, or large vestibule, is the principal part of the villa and is the only part that was completed.* In fact, when speaking of the villa Madama today one usually has in mind the loggia and its decorations. That the works of Giulio Romano and Giovanni da Udine might be preserved the three large openings facing the terrace have been closed. and the light now enters through glazed sash above the spring of the arches.

Among the details introduced in the elegant decorations of the walls and ceiling of the loggia are animals, both in their natural and blended form, creatures part beast, part human, such as fauns, satyrs, centaurs, tritons and mermaids. There are genii and female figures that uncoil themselves from the scrolls of acanthus foliage—griffins, birds, lyres, flowers, clusters of fruit and an intermixture of variously shaped panels containing a profusion of joyous mythological deities, allegorical attributes or inscriptions. Frequently, too, appear the six balls of the Medici and the hat of the cardinal, the diamond ring to which Leo X had added two hawks as supporters, and which Lorenzo de' Medici had adorned with three feathers, one white, one red and one blue, symbolizing faith, hope and charity, adding sometimes the word "Semper," signifying, according to Paolo Giovia, Lorenzo's constancy in his love of God. We find also the yoke used by Leo X as cardinal in 1512 and various symbolical objects forming parts of the insignia of Giulio de' Medici, such as the blazing sun, the crystal ball and flames of fire.

Hittorff says: "In such works we are justified in saying that taste and richness of resource have reached their climax, for since, by the reintroduction of stucco, it was possible to blend the two effects of painting and sculpture the most distinguished artists carried the execution of the combined decorations to the highest perfection."

The appearance of grandeur given here to the smallest details, the grace and lightness of form and the charming harmony and brilliancy of color, whets our curiosity to know what this villa must have been like in the heyday of joyous reveling, when these openings were free and the light permitted to enter in its full transparency.

The loggia offers, not less than that of the Vatican, a choice example of the decorative painting of the sixteenth century, but the less extended loggia of the Villa Madama and the less frequent repetitions of the arched divisions create a less confusing effect, and the magnificent ceiling a more gratifying and charming influence, than does the loggia of the Vatican.

The ceiling of the loggia in the Villa Madama consists of a small dome on pendentives and two groined vaults, one on either side of the dome. Below the groined vaults, opposite the openings onto the terrace, and also in the west wall, are semicircular exedras or large niches containing smaller niches above which are rectangular panels with various Medici emblems. At one time in

*A restoration of the Villa Madama was made by M. Bernard, a French architect, in 1871, and is now in the Ecole des Beaux Arts in Paris.

the small niches were ancient statues which were probably selected by Raphael while he was in charge of the excavations at Rome. The bust of Jupiter of Versailles, now in the Louvre at Paris, at one time belonged to the Villa Madama, but this with many other statues was sent by the Farnese family to the King of France.

From the center of the loggia a passage leads to a semi-circular court which was once the principal entrance to the villa, but is now in such a damaged state that it is impossible to form a good idea of its original appearance. The living apartments are entered from the passage mentioned above and from the east end of the loggia.

Examining the photographs we see in the center of the dome the armorial bearings of the Medici and at the four ends of a cross formed by small panels a series of beautiful little pictures in which the elements are represented by figures of Jupiter, Juno, Neptune and Pluto. Jupiter is shown with the eagle, emblem of strength, and bearer of his thunderbolts, and with Ganymede his cup bearer; Juno is shown on a chariot drawn by peacocks and accompanied by Eros; Neptune is seen driving his chariot over the sea; and Pluto with Proserpina is shown among the Eumenides, daughters of Night.

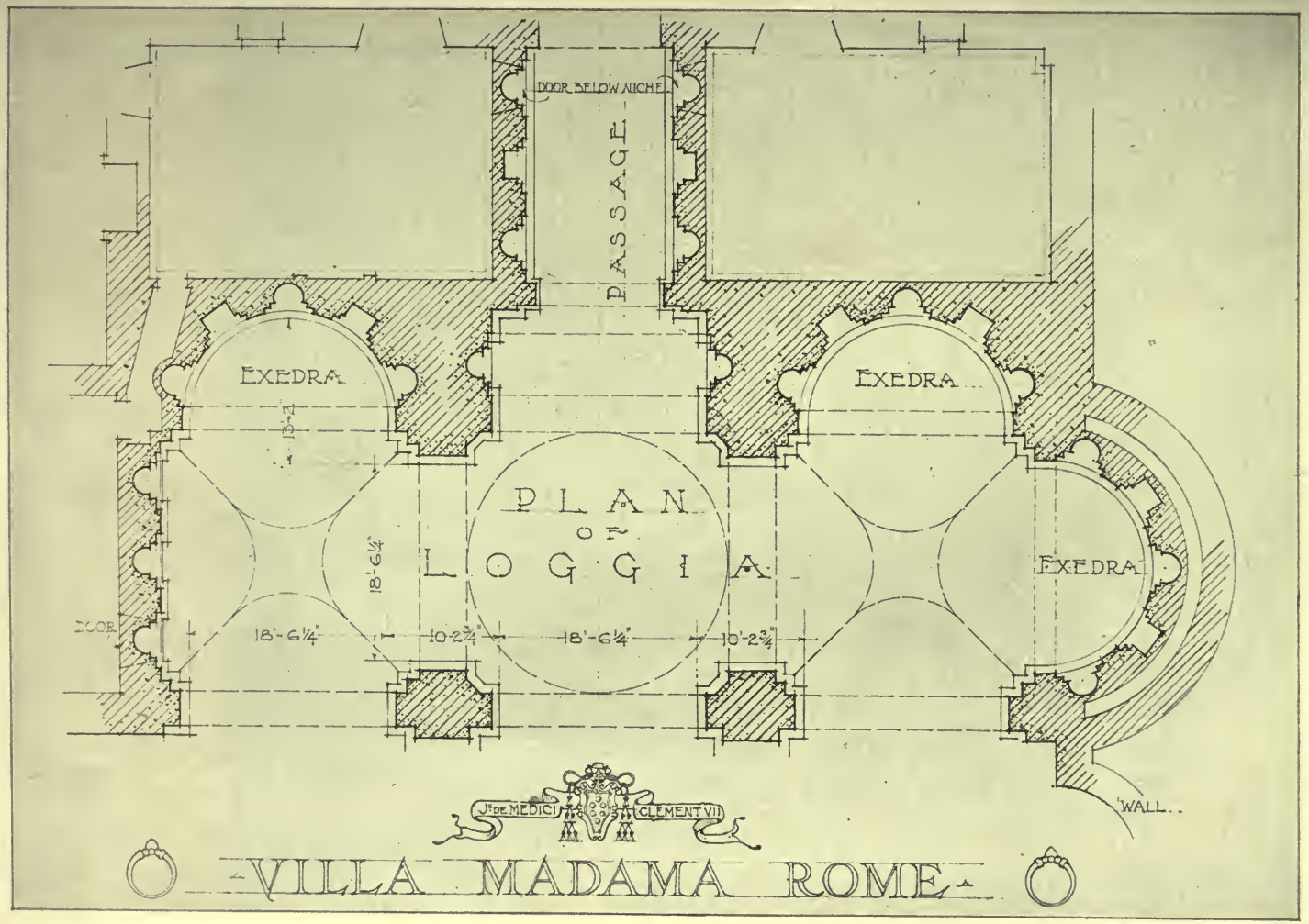
Between these paintings upon a ground of imitated gold mosaics are white stucco figures in circular panels representing the seasons. The most graceful is Spring, to whom two cupids are offering flowers; Summer is represented by a female figure with a cornucopia supported by cupids; Bacchus, as Autumn, is seated on a wine cask, while cupids assist him with the vintage, and Winter is represented by Vulcan warming his hands at the flame from a tripod as Venus is preparing his nectar.

This rich center is bordered by a frieze subdivided into eight square panels, and in each of the subdivisions are two genii with bodies ending in acanthus leaves. They are engaged with panthers, griffins and similar animals and between the genii is the diamond ring of the Medici. Below this frieze a second circle encompasses the whole dome and is studded with small and elegant cameos in relief. In eight large oval cameos are the principal heathen deities, while in the smaller ovals are muses and other symbolical and mythological female figures, and in the small circular cameos, on either side of these, are similar but very small figures done in white stucco.

A delicate band with small brackets and diamond shaped panels divides this last circle from the pendentives which are filled with rich flowery arabesques. On two of these pendentives diagonally opposite each other we see the ring of the Medici and the three plumes added by Lorenzo; also the six balls of the Medici escutcheon, each occupying the center of a flower, and the hat of the cardinal surmounting the composition. The other two pendentives have arabesques interwoven with human figures.

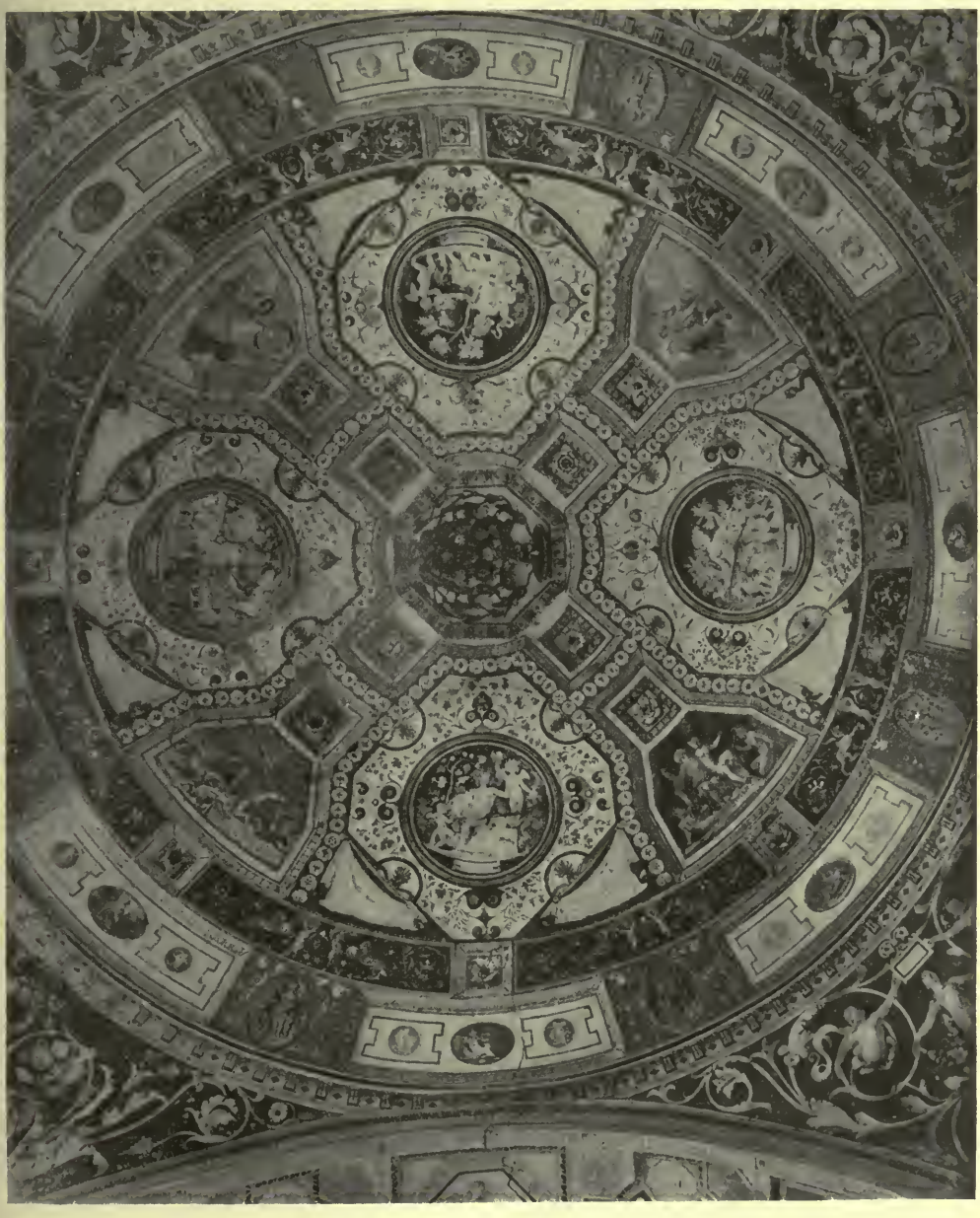
Designs equally ingenious may be seen on the soffits of the two arches dividing the dome from the groined vaults. In the center of each soffit a mythological subject has been introduced. They are done in stucco on a light green background; in one is Apollo and in the other are Jupiter and Europa.

The two groined vaults have a symmetrical distribution of the decorations, the detail of one differing somewhat from that of the other. In the center of the west vault is Neptune upon a shell drawn by two sea-horses. This is done in white stucco upon a background of blue with golden rays. On the white field of the four divisions formed by the groining is a variety of colored arabesques similar in appearance to the Pompeian decorations, while the center of each of these divisions contains an oval panel with a painting and these four paintings make another interesting series. One picture, showing Daedalus constructing the wooden cow for Pasiphae, is delightfully executed and is the best of the four. Another shows the Garden of Venus as described by Philostratus. The study for this picture is preserved in the Academy of Dusseldorf and is ascribed to Raphael. The other two show cupids at play and astride the backs of swans. The arbors around the base of


DOOR BELOW NICHE
PASSAGE
EXEDRA
EXEDRA
EXEDRA
PLAN
OF
LOGGIA
18'-6¼"
DOOR
18'-6¼"
10'-2¾"
18'-6¼"
10'-2¾"
WALL
J.s DE MEDICI
CLEMENT VII
VILLA MADAMA ROME



CEILING OF THE LOGGIA—
VILLA MADAMA, ROME.



DOME IN THE CENTER OF THE LOGGIA—VILLA MADAMA, ROME.



VAULT OVER LEFT EXEDRA IN LOGGIA—VILLA MADAMA, ROME.



A PENDENTIVE IN THE LOGGIA —VILLA MADAMA, ROME.



DETAIL OF VAULT OVER LEFT EXEDRA IN LOGGIA—VILLA MADAMA, ROME.



DETAIL OF VAULT OVER LEFT EXEDRA IN LOGGIA—VILLA MADAMA, ROME.



VIEW OF RIGHT EXEDRA IN LOGGIA—VILLA MADAMA, ROME.

the vault contain sea-horses and children in a variety of attitudes.

Amphitrite occupies the center of the east vault, and the four paintings here are: "A Group of Stayrs;" "Achilles Among the Daughters of Lycomedes;" "The Parting of Penelope and Icarus," and "The Amorous Meeting of Hermaphroditus and Salmacis." The border around the base of this vault is divided by shields, bearing the emblems of Clement VII, genii, animals and graceful arabesques. Of exceptional beauty are the meanders of white stucco on both these vaults.

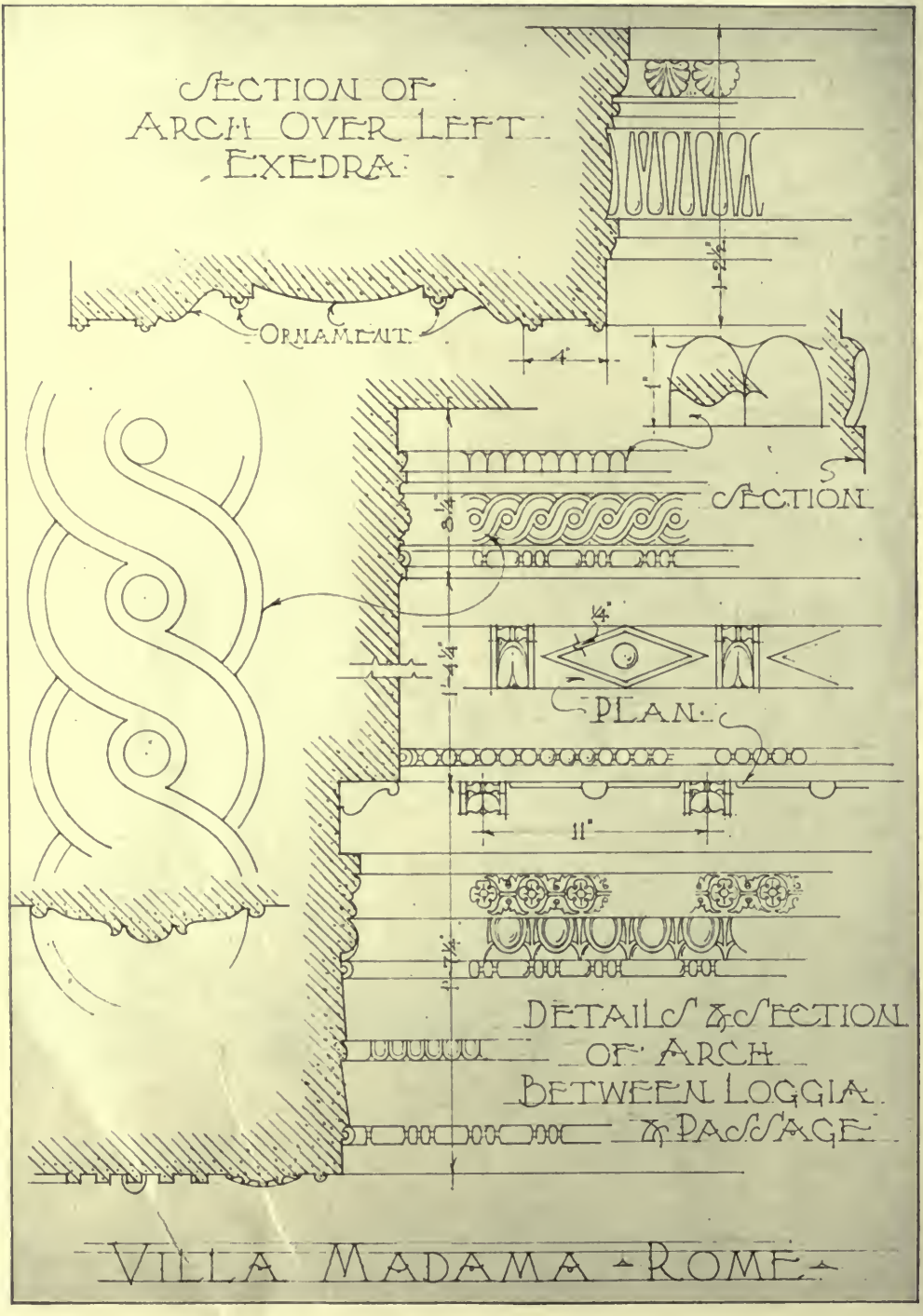
The large arch, between the loggia and the passage opposite the entrance, is also richly ornamented, and the skill with which Giulio Romano and Giovanni da Udine decorated the different parts of the villa is particularly noticeable here in small architectural compositions, such as niches feigning perspective, busts and graceful meanders. Two octagonal panels in this arch contain figures in relief; on the right Pan holding Hermaphroditus on his knees, and on the left, directly opposite, three fauns seated about a table. The arabesques on the pilasters are done in a slight stucco raised only here and there from the background.

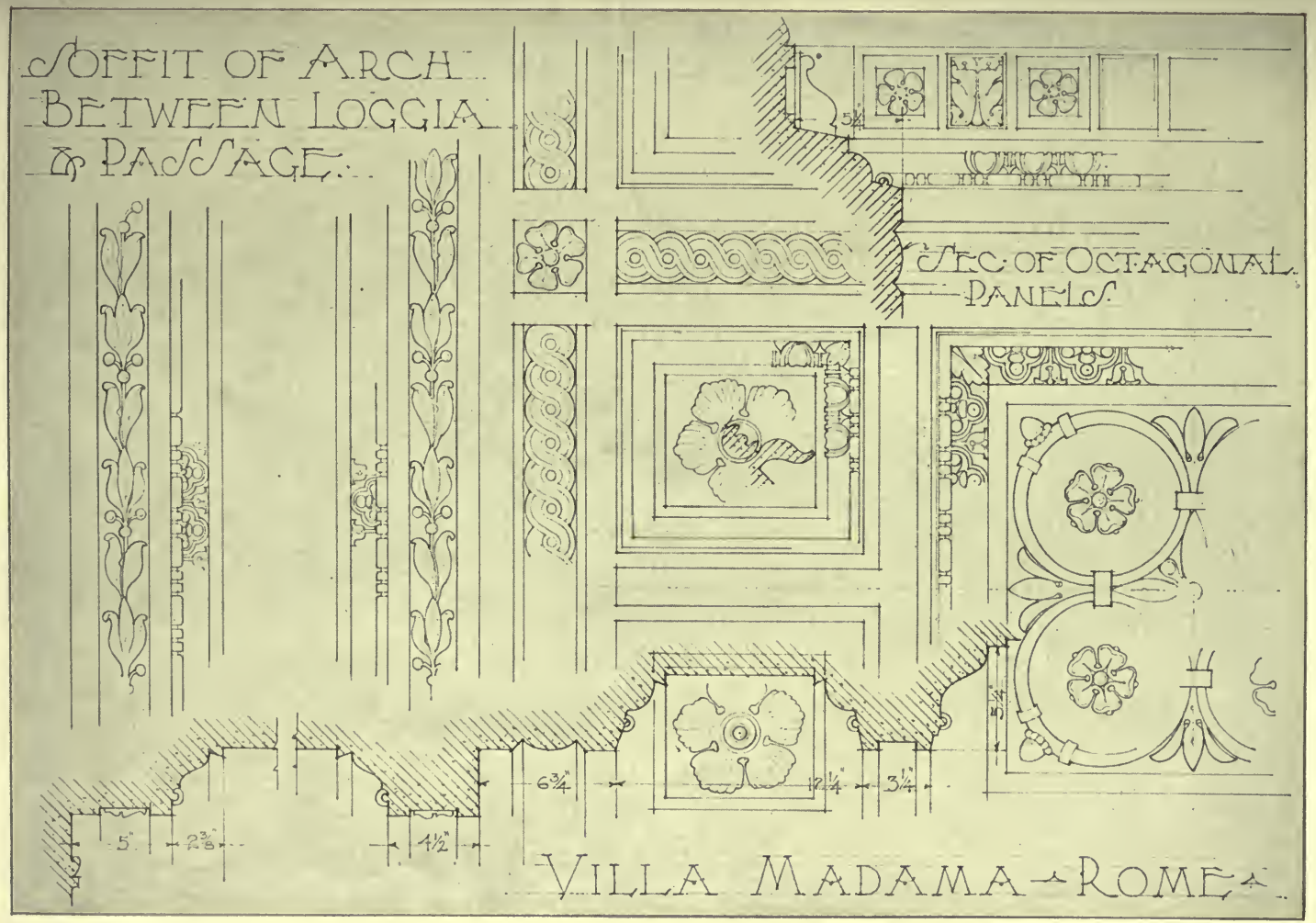
The side walls of the passage have a series of niches similar to the exedras and here below a mask of Medusa is the signature of Giovanni da Udine.

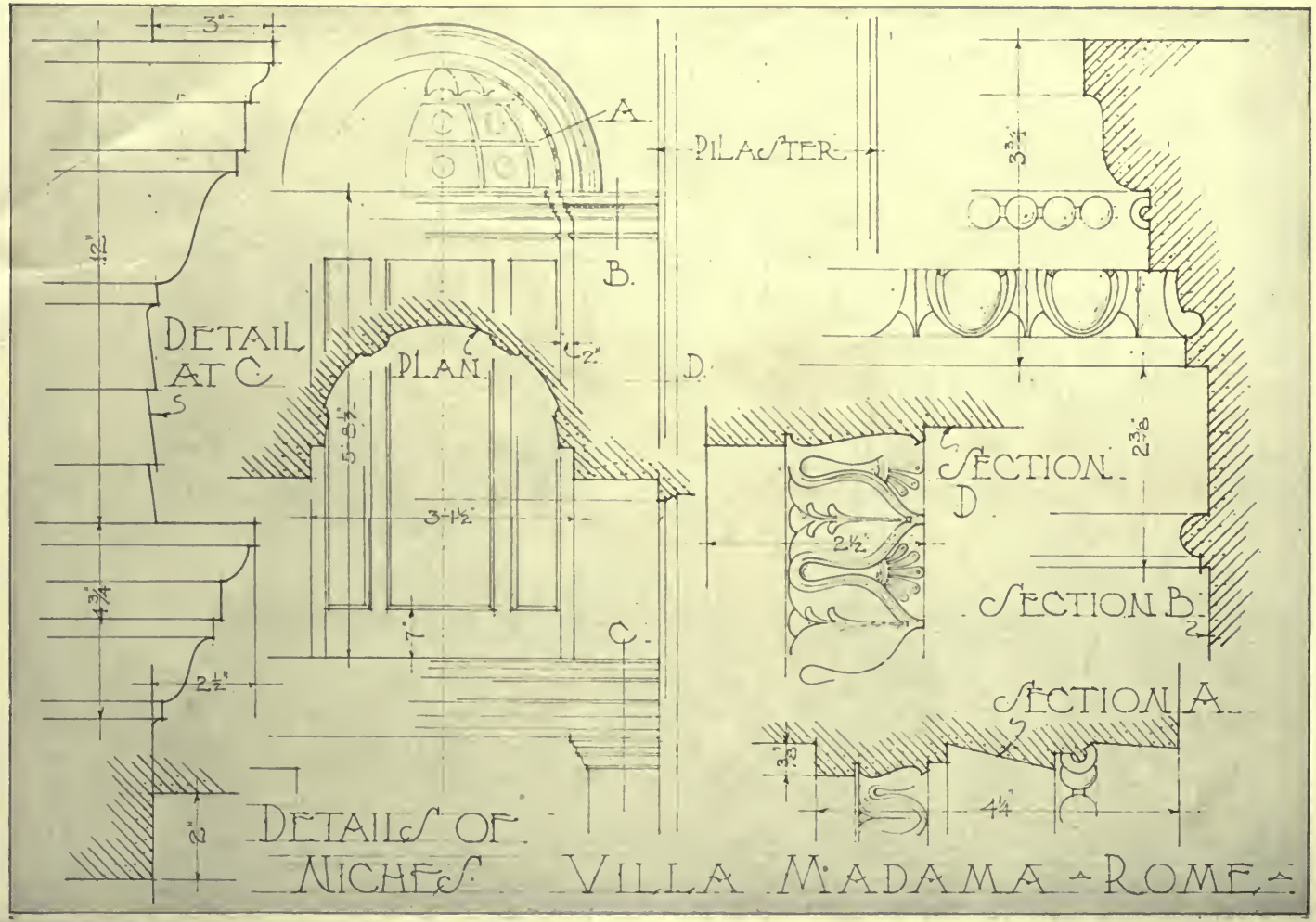
The vault over the left exedra is extremely interesting. At the top upon a shell is Victoria holding in her hands corn-ears and poppies, the attributes of Ceres, and grapes, the attributes of Bacchus. Polyphemus' love for Galatea is the theme here for the decorations in ten nearly square panels bordered by rich arabesques (shown on the accompanying photographs). On either end of the upper row nymphs are shown, being carried over the sea by centaurs; the one at the left represents Calm—the lyre in the hand of the centaur suggests this, while the one on the right represents Tempest—the hair of the centaur and the drapery of the nymph are being blown by the storm. In the second picture on the left in the top row Venus is sending Cupid to Polyphemus to stimulate the Cyclops' love for Galatea, while the central picture in both the upper and lower rows shows the love-stricken Polyphemus striving to disguise his rough exterior. In the upper one he is clipping his beard with a sickle, and in the lower he is harrowing his coarse locks with a comb. In these pictures we notice that the artists have shown Polyphemus with two eyes and did not slavishly hold themselves to the classical description of him as a monster with one eye in the center of his forehead.

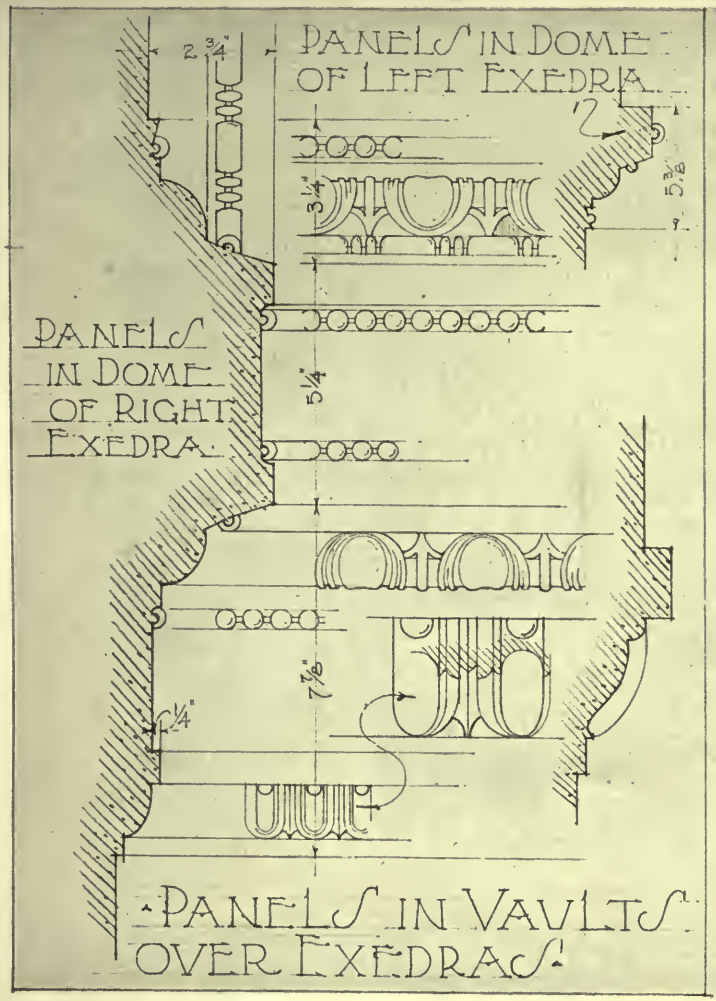
At the left end of the lower row the Cyclops is seen sitting on a rock training a young bear that he is to present to his beloved as a plaything. This motive we find first spoken of by Theocritus, from whom the later poets and authors took it. The next panel shows the Cyclops looking at his coarse features in a pool, and on the opposite side of the centre he is singing of his love for Galatea. In the panel above this we learn that the efforts of Polyphemus are all in vain, for here the object of his love is sitting on the knee of his rival, Acis. Polyphemus' revenge is shown in the lower right-hand panel; he is hurling a rock upon the unfortunate Acis, and Galatea is seen hurrying away. This whole cycle reminds one of the "Myth of Psyche" in the Villa Farnesina at Rome, particularly the panel in which Venus is sending Cupid to Polyphemus, although in the Farnesina it is woven into a different mythcycle following the accounts of Apuleius, a Latin author of the second century much read during the Renaissance. This motive was well known to the ancients in song and picture, and it is found on numerous vases and paintings in the lower part of Italy. The Renaissance became acquainted with it from the Roman poet Ovid, who introduced the rape of Proserpina by Pluto in this manner.

The vault over the right exedra is crowned by an elaborately decorated shell from which hangs a curtain and garlands supported by heads of strange animals, while animals still stranger are shown in low relief between the festoons. Below this is a series of panels of four, six and eight sides. Rosettes occupy the centres of the square ones and the others have figures in relief. In each of the four

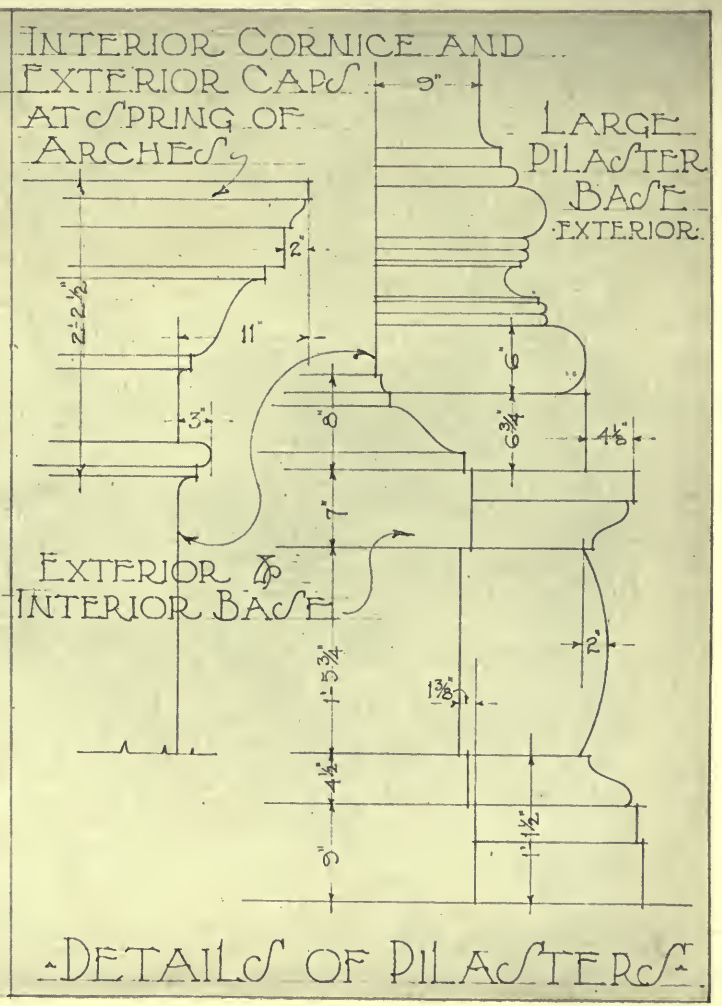

SECTION OF
ARCH OVER LEFT
EXEDRA
ORNAMENT
SECTION
PLAN
DETAILS & SECTION
OF ARCH
BETWEEN LOGGIA
& PASSAGE
VILLA MADAMA - ROME -


SOFFIT OF ARCH BETWEEN LOGGIA & PASSAGE
SEC. OF OCTAGONAL PANELS
5¼"
6¾"
12¼"
3¼"
5¼"
5"
2⅜"
1½"
VILLA MADAMA - ROME


3"
12"
4¾"
2½"
2"
DETAIL AT C.
A.
B.
C.
PLAN.
5'-9½"
3'-1½"
7"
12"
PILASTER.
D.
3¾"
2¾"
SECTION D.
2½"
SECTION B.
SECTION A.
3½"
4¼"
DETAILS OF NICHES VILLA MADAMA - ROME.




PANELS IN VAULTS OVER EXEDRAS



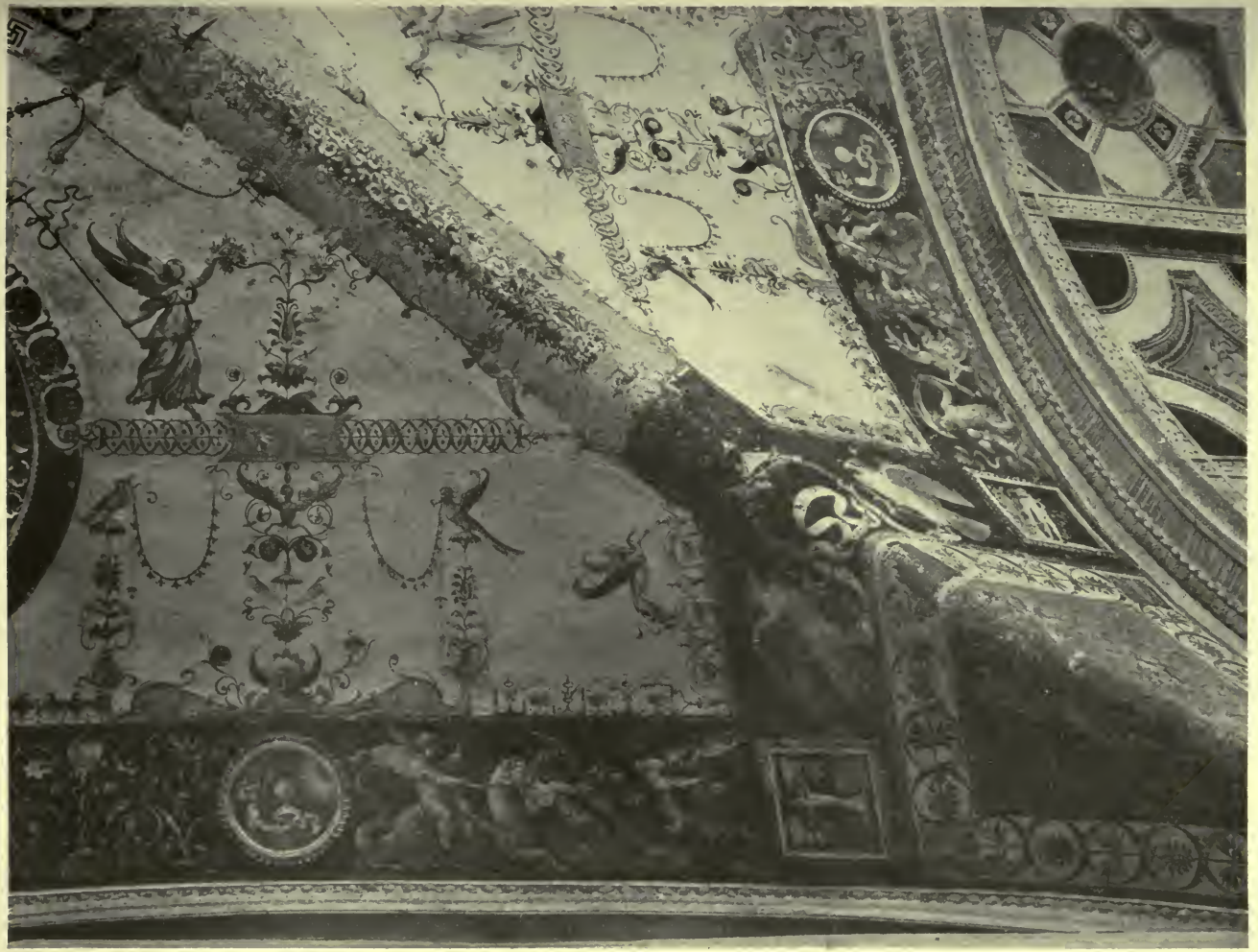

DETAILS OF PILASTERS



VAULT OVER RIGHT EXEDRA IN LOGGIA—VILLA MADAMA, ROME.



GROINED VAULT IN LOGGIA —VILLA MADAMA, ROME.



DETAIL OF GROINED VAULT IN LOGGIA—VILLA MADAMA, ROME.

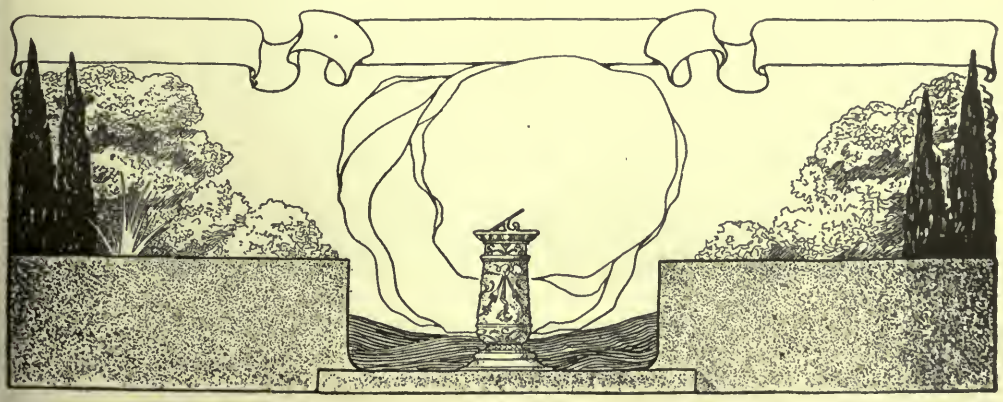


ARCH BETWEEN LOGGIA AND

hexagonal panels is a river god in a reclining position, but only two of these are recognized, the Nile represented by a Sphynx, and the Tiber by the she-wolf and the twins, Romulus and Remus. Of the octagonal panels the central one contains genii and the four remaining panels of this row are devoted to Venus. On the right of the centre she is dancing around a tripod and in the picture next to this she is shown blowing a trumpet as she frolics with Cupid. On the left of the centre, Venus is standing with one foot on a helmet, while in the last panel she is shown holding a wreath in one hand while the other grasps a lance, the shaft of which is also held by Cupid. This last figure, according to Amelung, is the same as an antique figure on a relief which was at one time in the villa Borghese and which is now in the Louvre. This motive was also used by Lorenzetto on the bronze relief in the Chapella Chiga in the church of Sta. Maria del Popolo. The panels of the lower row, partly cut off by the cornice of the exedra, contain reclining figures, but it is difficult to determine what these represent.

There is hardly anything left of the decorations on the vault of the exedra at the west end of the loggia. A large shell covered the upper part, and on this shell were the cardinal's hat and arabesques, where again the centre of six large flowers contained the six balls of the Medici escutcheon. Besides parts of the shell, two panels are still left, one round and the other square. In the square panel we again find the word "Semper." The lower part of the exedra has suffered severely from dampness, for it is built into the side of the hill and water has seeped through and caused much of the stucco to fall off the walls.

In one of the rooms of the living apartments a frieze of slight interest is preserved, while in another room is a decorated ceiling, by Giulio Romano, with the Medici arms in the centre. The pupils of Raphael executed compositions similar to those of the Villa Madama in Rome, Mantua, Venice and Genoa, and in these reached the full development of their master's style; but with the revolt against the finer rules of the Renaissance which followed shortly after the Sack of Rome in 1527 and marked the beginning of the Baroque period, came more massive compositions. Patrons, stimulated by the examples of the popes, desired vast and showy decorative works with a sumptuous parade of superficial ornament; this the artists attempted to supply. The delicate kind of decoration full of seriousness was no longer followed; the love of false magnificence had replaced the feeling of real grandeur.





FRONT DOOR AND PORCH—OWN HOUSE, NEW CANAAN, CONN. ELECTUS LITCHFIELD, ARCHITECT.



SOUTH FRONT—OWN HOUSE, NEW CANAAN, CONN.
Electus D. Litchfield, Architect.

# AN ARCHITECT'S COVNTRY HOVSE

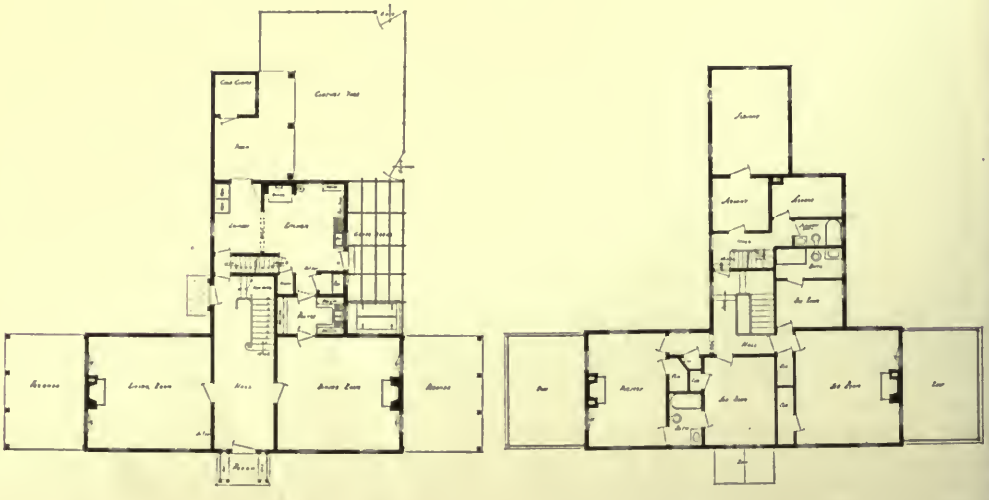
## Residence of Electus Litchfield, New Canaan, Connecticut

By Harriet T Bottomley

I HAVE before me the very delightful task of writing about the country home of Electus D. Litchfield, Esq. "The House with the Blue Blinds," it is called, and it possesses all the sympathetic charm that one would expect of a house with such a name. Situated about one mile from the New Canaan station on a small plateau that seems to have been made for just this house, it lodges securely among the rolling, wooded hills about it and stretches its long, low, white arms above the valley that slopes away from its front drive, to the shore of Long Island Sound seven miles away. It is a pleasure to see, on approaching it from the highway, how perfectly it is in harmony with its New England surroundings.

Something over a hundred and fifty years ago the settlers in this part of the New World evolved a style of architecture adapted to this very country. It was the outgrowth of memories, more or less definite, of Georgian architecture at home in England, modified by totally new conditions of climate and materials. The Georgian details which were originally designed for execution in stone, had to be adapted and redesigned before they could be made effective in wood, which, from the days of the early colonies to the present time, has always been the cheapest and most abundant building material to be had in New England. A style of architecture resulted that is peculiarly American and very satisfying; classic in its inspiration, it is true, but exceedingly





LIVING ROOM PORCH AND FLOOR PLANS —OWN HOUSE, NEW CANAAN, CONN. ELECTUS D. LITCHFIELD, ARCHITECT.



VIEW FROM THE SOUTHEAST—OWN HOUSE, NEW CANAAN, CONN.
Electus D. Litchfield, Architect.

free in its readjustment of classic details, and unique in its development. Nothing has ever been designed that suited better, or as well, the New England landscape, and the life imposed by climatic conditions upon its inhabitants. Those designers of today are wise who follow the well-grounded traditions of the country and build upon the hillsides of Connecticut, long, low, white houses, inspired by the long, low, white houses of long ago. "The House of the Blue Blinds" is such a building.

It is unusually interesting also in that it is an architect's own home, planned and built for himself and his family to live in. Here we are looking at a building into which no interfering client obtruded his ideas. There was in this case, however, one consideration that stayed the imagination of the designer—the consideration of expense. For this house was built upon the firm foundation of common sense. Its prospective owner and its architect decided that, come what might, he would invest in his house and land only the capital represented by the rent he had been paying for other people's houses. He had, to start with, a knowledge of what houses cost, and he modified his ideas and designed such a house as he thought could be built for his fixed sum of money, making certain compromises in order to bring down the cost. In time, as he chooses, he can add to and change his original to exactly meet his ideals. When reducing his estimates he wisely decided to cut nothing from his finished details. How many houses have been spoiled by cheap, coarse trim and bad mouldings. It is no easy matter to repair such damage, whereas it is always possible to add to what is simple but good. Therefore, cornices, doorways and leadings were carried out with the finest execution. But the cost was very materially reduced by certain omissions. Hardwood floors, for instance, were not laid, but the wide boards of the under flooring were left exposed and painted a yellow that recalls vividly old New England farm houses. The present mantels, though they undoubtedly have a certain quaint effect, are only temporary and are



VIEW FROM THE NORTH—OWN HOUSE, NEW CANAAN, CONN.
ELECTUS D. LITCHFIELD, ARCHITECT



THE SOUTH FRONT—OWN HOUSE, NEW CANAAN, CONN. ELECTUS D. LITCHFIELD, ARCHITECT.

to be replaced some day by handsomer ones. They were bought from a house wrecking company in New York, four of them for the sum of $16. The building contractor's estimates were further reduced by replacing the proposed dressed stone coping of the brick porches by bricks stood on end in cement, by substituting cattle hair felt quilting over the studs and under the shingles for the proposed brick filling between the studs, and by using ordinary shingles doubled instead of the extra long, hand-split ones of the Colonial houses.

The first thing one feels on approaching this house is its absolute appropriateness to its site. The building is enclosed on its own plot of ground by a white fence of Colonial pattern. Its rear and side are toward the highway, and a private road leads around to the main entrance of the house, which faces the lovely view to the south. Informal visitors may enter from the side through a gate in the fence, from which a footpath of irregular flat stones leads to the side door. This gate is an excellent point from which to study some of the charming details of the house. The cornice, so delicate in effect, is partially at least, a product of New Canaan. The frieze was seen by Mr. Litchfield on an old building in the neighborhood which was being torn down by its unappreciative owner, and copied by him on his own house. It is very simple in design, but exquisite in effect. It consists simply of groups of alternate reeds and grooves, the reeds being about two inches longer than their concave neighbors. This grouping was evidently derived from the Greek triglyphs. The perforated board brackets, taking the place of the classic mutules, in the cornice above the reeding in the frieze, add an interesting contrast of dark and light to the overhanging eaves. The fan-lights in the gable-end, and the lattice around the porch are worthy of notice here.

The main front of the house is delightful. Its porch, with the elliptical arch, slender columns and side lights, and the Palladian motive directly above, make a charming center to the composition of the simple facade with the double row of large plain windows. The porches at either end are, of course, modern additions to this style of architecture, but they have been made so fine and light that they seem an appropriate and integral part of the design. They suit the style as perfectly as do other portions of the house that have been carefully studied from historic models.

The leadings around the front door are specially interesting from the point of view of their execution. They are not, by the way, made after the manner of European or later American leadings. They are true examples of early Colonial; that is, the glass is cut only by the main, structural wooden muntins in the design, and the merely decorative pattern in lead and wood is an entirely separate affair, set in front of the glass. By this method a very pretty effect is gained from the reflections of the pattern in the glass behind it.

The front door opens directly into a hall with dining-room and living-room on either side of it, as is usual in this type of house, but there is a very clever modification here of the typical Colonial plan which was developed from a wish of Mrs. Litchfield's when the house was still only a dream. She said she had always wanted a room with windows on three sides of it. This wish was the inspiration of the present plan, in which there are not merely one, but six rooms with windows on three sides of them. A glance at the plan will show that the main house is narrow, only one room deep in fact, each end room having three external walls pierced by windows. One difficulty presented itself. The hall, being only the depth of the main house, was shallow—too shallow comfortably to accommodate a generous flight of stairs as well as the doors into the rooms to the right and left. After some puzzling over this problem, the kitchen wing was placed directly opposite the front door, but slightly off axis, and the hallway was run back into it, the flight of stairs starting at the intersection of this wing with the main house. Instead of the usual back door opposite the front door, a side entrance was made opening on the stone walk already referred to. There are obviously



SIDE ENTRANCE—OWN HOUSE, NEW CANAAN, CONN.
Electus D. Litchfield, Architect.

great advantages in this over the typical New England plan, and for the site of the "House with the Blue Blinds," it could not be improved upon. By this arrangement the master's bedrooms, as well as the drawing-room and dining-room, get lovely views in three directions, and excellent crossdrafts. The house has the best possible exposure. It faces south, where the finest view is to be seen, and where the summer breezes come from; the windows to the north give free circulation, and the house is flooded with sunshine in winter.

Imagine the wide hall with generous doors of exquisite designs and workmanship opening to the right and the left. Old painted chairs, black with gold decorations, a quaint old sofa and mirror and a "tall clock looking like a mummy set on end," give the keynote of the furnishings of the "House with the Blue Blinds," which is style. Every piece of furniture is suitable. There is something clumsy about much of the early American cabinet work, something not quite arrived about the detail. In the handsome mahogany sofa in the living-room, for instance, the legs, flat pieces of wood sawed in a rather awkward outline, are what give it its undeniable cachet. The old prints on the wall, stiff and technically rather crude in some instances, suit the house to perfection. The silhouettes on the stairway and the quaint old bric-a-brac and blue china, all handed down from our American forefathers, have a delightful effect.

In the entrance hall is the same picture wall paper that covered the parlor walls in the childhood home of Thomas Baily Aldrich in Portsmouth. In his "Story of a Bad Boy" he gives the following graphic description of it: "In the parlor this enlivening figure is repeated all over the room. A group of English peasants, wearing Italian hats, are dancing on a lawn that abruptly resolves itself into a sea-beach, upon which stands a flabby fisherman (nationality unknown) quietly hauling in what appears to be a small whale, and totally regardless of the dreadful naval combat going on just beyond the end of his fishing-rod. On the



HALLWAY—OWN HOUSE. NEW CANAAN, CONN. ELECTUS D. LITCHFIELD, ARCHITECT.



HALLWAY—OWN HOUSE, NEW CANAAN, CONN. ELECTUS D. LITCHFIELD, ARCHITECT.



LIVING ROOM—OWN HOUSE, NEW CANAAN, CONN.
Electus D. Litchfield, Architect.

other side of the ships is the mainland again, with the same peasants dancing. Our ancestors were worthy people, but their wall papers were abominable. I cannot, however, agree with Mr. Aldrich that this paper is "abominable." Certainly the effect in this particular place is perfect.

From the ceiling in this hall hangs a black iron lantern with engraved glass panels. The stairway leads to a second story, much like the first in arrangement, and above that is a garret, capable of developing into a real, old-fashioned garret, "a museum of curiosities," such as we who have had New England grandparents remember so well. The slender banisters and handrail of the main staircase are of cherry stained almost black and rubbed down to a soft gloss. With this exception, and that of the trim in the service wing, the woodwork throughout the house is painted white.

The door frames leading to the right and left from the hall into the dining-room and living-room were copies of old Salem doorways, unusually well executed in every detail. The cornice, the festooned napkins, the baskets of fruit, and the reeding are beautifully modelled. Drawings of these same Salem doorways are reproduced in the "Georgian Period," but any architect or decorator wishing to copy them would do well to use the photographs accompanying this article instead of the older drawings, which are not accurate in detail.

The living-room is large and homelike, with six windows, two of them opening on the comfortably furnished porch beyond. Opposite the door is a generous fire-place "with room enough for the corpulent back-log to turn over comfortably on the polished andirons." A group of inviting chairs is gathered about it. The foliage wall paper, soft gray in tone, makes an excellent background for the old furniture and mirrors. The modern electric light fixtures are simple, shaded with engraved glass chimneys, and on the mantle are two unique glass lamps and a pair of quaint painted vases. The effect of gray and black and gold in this



LIVING ROOM—OWN HOUSE, NEW CANAAN, CONN.
Electus D. Litchfield, Architect.

room is exceedingly good. There are always quantities of bright flowers from the garden everywhere.

The dining-room across the hall is no less charming in effect. The blue china and mahogany seem to require the buff wall, which is given full value by the long, blue curtains at the French windows, and the fresh white ones at the others. The banister back dining-room chairs are rare examples of American furniture. Luke Vincent Lockwood, in his invaluable book on "Colonial Furniture," places this type of chair between the years 1710 and 1750. They are painted black, with rush bottom seats. The center table of mahogany is old too, as are the prim side tables of inlaid walnut.

It is interesting to note the cement facing in the fire-place. Ninety-nine times out of a hundred the Colonial builders covered their brick facings in this way.

The photograph of the bedroom on the second floor gives a very clear idea of how good the furnishings upstairs are. The slender four-poster with its delightful spread of tufted cotton, the highboy, the painted chair and the ornaments on and about the mantelpiece are all very stylish.

There are almost as many outdoor as indoor rooms in this house. The brick paved porches on the ground floor opening at each end are delightful places to sit. On the second floor over these are two more porches open to the sky. One of them is provided with an awning in summer and makes an admirable sleeping porch, though really it is scarcely more airy than the bedroom off which it opens. The service wing is amply provided with porches also, which are skillfully placed away from the master's part of the house.

It is unusual to see a house in which the conveniences, all the little things which the housekeeper prizes so highly, have been carefully thought out and embodied in the building. Just to mention one little device that adds greatly to the convenience at certain times, the service stairs are straight and open into a narrow hall, which runs parallel to them.



DINING ROOM—OWN HOUSE, NEW CANAAN, CONN. ELECTUS D. LITCHFIELD, ARCHITECT.



DOORWAY—OWN, HOUSE, NEW CANAAN CONN. ELECTUS D. LITCHFIELD, ARCHITECT.



They are wide enough to admit of the passage of a large trunk, but it would be impossible to turn the trunk in the narrow hall above, were it not for a simple and clever arrangement. The railing at the head of the stairs is made entirely separate from the built-in woodwork, and is clamped in place by iron fasteners. These can be opened and the whole railing lifted out of the way, making room for the most uncompromising trunk. Many a house would be much improved by an invention of this kind.

Another detail which simplifies the service is the placing of the wood and coal bins, which are just outside the kitchen door on a level with it, so there is no carrying up and down stairs. These simple conveniences so little appreciated by the casual visitors are highly prized by the inmates of the house, masters and servants alike.

The kitchen wing is screened from the front of the house by high vine-covered lattices, and on the west is cut off from the side entrance and the road by its windowless lower story.

Before closing this article I must not forget the garden. It is on the south slope of the hill, some 50 yards from the front door in the hollow, between the apple orchard on one side and a grove of maples on the other. This is an ideal location. From the house, it leads away into the view, and a sunnier, more protected situation could not be found. This garden is planted between two rugged old stone walls, about 15 feet apart, that are a legacy from the original farm which included Mr. Litchfield's land. They were built to form a lane for the cows leading from the barn, which has long since disappeared, to the pasture. Fortunately this lane is much wider than most tracks of the sort, and the gray lichen covered stone walls form a lovely background for flowers and growing things. A little brook running down the hill to the right crosses the further end of this lane. Mr. Litchfield has built a rectangular pool just beyond the garden in whose clear sheet of water the house above and the nearby flowers are reflected. Some day the hollow below is to be transformed into a small lake.

Looking straight up the garden between the stone walls and the tall cedars, one gets a lovely glimpse of the house at all seasons; when the peonies are in bloom in the garden, reaching up their brilliant flowers in front of the white house; when the larkspur and madonna lilies rise in straight dignity from the long borders, challenging the white house on the hill to be as dignified as they; or again in the autum when only the cosmos and the red leaves are left in a last glorious array of color. The house itself is another center for flowers. Climbing roses, clematis and honeysuckle grow about it on all sides. They climb over the front porch and reach toward the arch above the beautifully proportioned slender columns, and hang over the quaint porch seats.

At first one does not realize, in looking at the house, that its very finished and harmonious effect is largely due to just such beautifully studied details as are seen in this entrance porch and which are to be found all through it. The real interest and affection of its designer have been lavished on each line and curve and the result is a home of rare charm.



ENTRANCE TO UNIVERSITY HALL—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
COPE & STEWARDSON, ARCHITECTS.



UNIVERSITY HALL—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.

# WASHINGTON VNIVERSITY
## ST. LOVIS, MISSOVRI

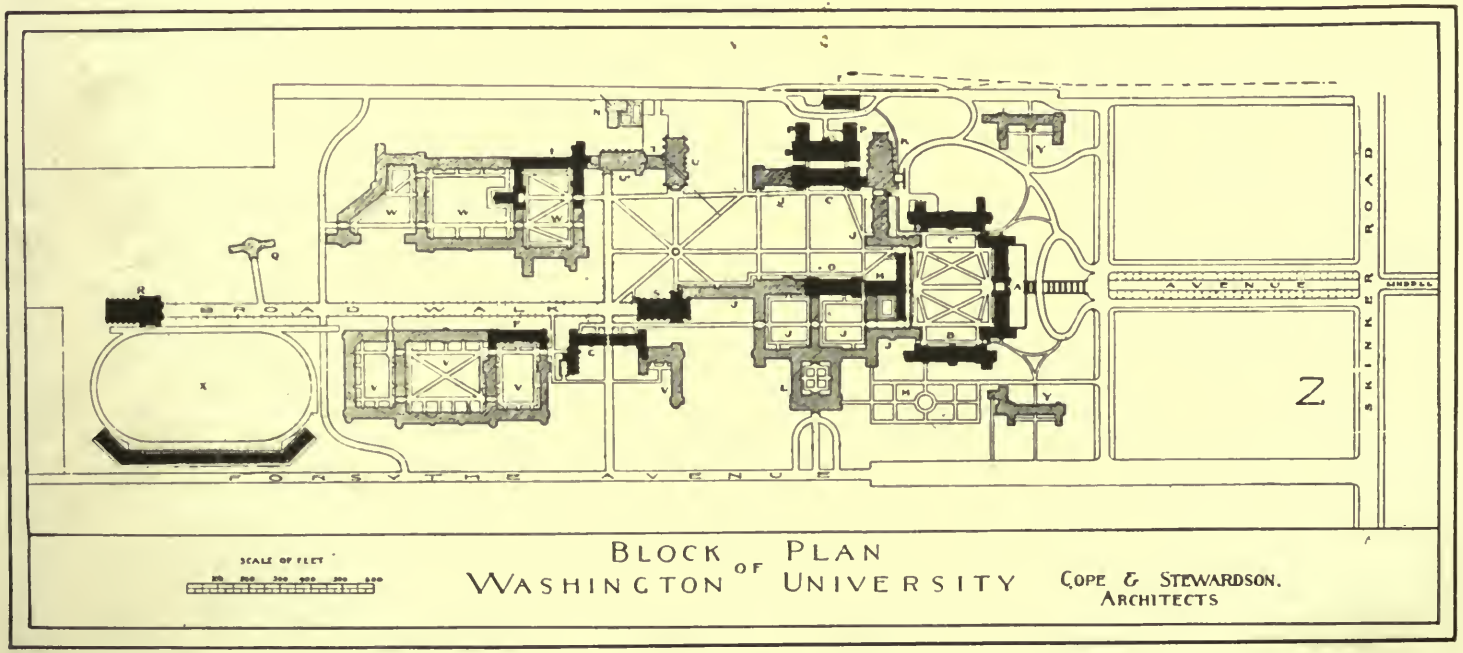
Cope & Stewardson
Architects

By
Guy Study

IN 1834, more than a century after many of the colleges had been founded in the States along the Atlantic Coast, William Greenleaf Eliot, a Harvard theological student, came to St. Louis to become the first minister of the Unitarian Church of the Messiah. The role this young man played in the subsequent history of the city and the State was so distinguished that in 1853, by an act of the State Legislature, a charter was granted to Eliot Seminary, in his honor. Four years later, in order to meet the broadest requirements of a great educational institution, Eliot Seminary became Washington University. Loyally supported by generous friends, Dr. Eliot became its directing force, and finally served as chancellor during the last eighteen years of his life. Even the gift of John Harvard of £400 and his library of two hundred volumes, to the institution that bears his name, is incomparable to what William Greenleaf Eliot did for Washington University in his repeated gifts and faithful service during the period of a generation; and its enviable distinction as a seat of the highest learning is the enduring imprint of its founder.

The first buildings that housed the university were substantial but plain. They were located in what was then the outskirts of the city. But after thirty years the business section of St. Louis had expanded, and began to encroach dangerously upon the university. At a period when its buildings were only becoming venerable Washington University, contracted by want of space, and hampered by the uncongenial atmosphere of commerce, was forced to seek a new location.

Facing the necessity of moving bodily, the trustees conceived of a greater university, a university that should mean to the Central West what Harvard does to New England; endowed with ample funds, and housed in buildings worthy of its splendid record. As in the past, public-spirited citizens appeared, and the mag-




A —University Hall—Administration.
B —Busch Hall—Laboratory of Chemistry.
C1—Cupples Hall No. 1—Civil Engineering and Architecture.
C2—Cupples Hall No. 2—Mechanical and Electrical Engineering.
D —Cupples Engineering Laboratories.
E—Power House.
F—Liggett Hall—Men's Dormitory.
G—Tower Dormitory, for Men.
H—Ridgley Library and the Law School.
I—McMillan Hall—Dormitory for Women.
J—Position of Future Extension of Buildings.
K—Auditorium.
L—Museum.
M—Botanical Garden.
N—Gardener's House.
O—Eads Hall, Laboratory of Physics.
P—Extension of Mechanical and Electrical Engineering Laboratories.
Q—Observatory.
R—David R. Francis Gymnasium.
S —Chapel
T —Kitchen Service.
U1—Commons Hall—Men.
U2—Commons Hall—Women.
V —Dormitories for Men.
W —Dormitories for Women.
X —David R. Francis Athletic Field—Running Track, three laps to the mile.
Y —Dormitories for Instructors.
Z —The Art School.

Buildings already completed or in process of erection shown in solid black.
Proposed buildings shown in light lines.



BUSCH HALL—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.

nificent sum of several millions of dollars was raised—a sum sufficient to assure for all time the existence of the university. The crystallization of this undertaking reflects the character of the men who conceived it and whose untiring labors have forwarded it to its partial completion. The location chosen for the new buildings was a thinly wooded plateau overlooking Forest Park and the city of St. Louis.

The trustees of Washington University wisely decided upon a competition to choose their architect. This competition was held in 1900. The successful competitors were Cope and Stewardson. Admirable as were all the competing drawings, yet one cannot but feel that the English Tudor style, interpreting the remarkable plan of Cope and Stewardson, was most fortunate. The plan, while somewhat void of the "brilliant axis" and "focal point" arrangements essential to the splendor of a cold, monumental project, was a plan full of subtleness and of unexpected charm, of picturesque arrangements of courts and compositions of facades, features not strikingly evident on paper, yet all convincing in reality.

Without delay, eight of the principal buildings were begun. A rich reddish-brown Missouri granite, laid in rambling rubble, with Bedford limestone for all cut stone work, was the material uniformly employed. Honesty of construction and truthfulness of material make the buildings of the university group not only models of workmanship but rare examples of architecture in an age of cheap and commercial structures. By 1904, the year of the Louisiana Purchase Exposition, the eight buildings, some bearing the names of the persons who gave them, were completed: University Hall, Busch Hall, Cupples Hall No. 1 and No. 2, Ridgley Library, Eads Hall, Tower Dormitory, Liggett Hall and the Gymnasium. In 1907, McMillan Hall and the Graham Memorial Chapel were added. Early in the spring of 1905, the undergraduate departments were transferred to the new campus. At last, permanently housed and safely fortified by the magnificent park of 3,000 acres, Washington University now only awaits the loving hand of time again to render venerable her walls already covered with ivy.



CUPPLES HALL NO. 2—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.



TOWER DORMITORY—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.



RIDGLEY LIBRARY—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.



EADS HALL—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
Cope & Stewardson, Architects.

While Washington must wait centuries for her elms to grow, for her stones to mellow with age, her harmonious group, in one of the most charming of styles, gives the institution a start that few universities in America have had.

The rule of Emerson, to allow ten years to test the value of a book, may be applied as well to architecture. Scarcely any of the forced styles have remained in use this long. The ethnic relationship of English Gothic is right, and to-day, after more than ten years, Washington's group continues to hold one by its inimitable charm; and to appreciate fully and realize its charm one must live within its walls. Praise, then, is the natural criticism of so important a group of buildings, designed by a strong man to whom fell the good fortune of planning their structure and to whom, after he had met all requirements, was allowed a free hand.

The principal building of this remarkable group is University Hall, the gift of Robert S. Brookings. Its commanding position, approached by a great flight of steps and a broad terrace, is inspiring. The composition of the main facade is masterly. The end facades of Busch and Cupples Halls are really parts of this superb composition. The transition from one Hall to the other formed by the archways is most pleasing, while the picturesque silhouette untiringly leads the eye up to the crowning motive of the central towers. The first building of this group is very appropriately in the style of the earliest of the English periods employed. It falls under the style of the period of King Henry VII, when the oriel window was at its best, when the windows and doors were Gothic rather than Renaissance, and only Gothic motives appeared in the mouldings and decorations. The central archway and towers, while suggested by several archways at Cambridge or Oxford, are far from being copies of any of them.

Passing through the Tudor arch and groined passage, one comes into the First Quadrangle. Directly in front stands the Ridgley Library; to the right, Cupples Hall No. 1, occupied by the School of Architecture and Department of Civil Engineering; to the left, Busch Hall, occupied by the Department of Chemistry. Long and low is the main facade of Cupples Hall, with two entrances developed into pavilions. One finds here the introduction of the Renaissance. The pediment over the door, the impost and base of the door arch and the carved ornament, while Renaissance, are cleverly handled so as to give a strongly Gothic feeling. The balustrade serving as a low parapet wall and the sun-dial over the central bay, on the other hand, are quite Renaissance in treatment.

Directly across the Quadrangle in Busch Hall, the general mass of which recalls Cupples, one finds more suggestions from the Elizabethan period. That period of English architecture which has withstood much severe criticism and whose rightful claim to artistic worth reappears many times throughout this modern group of buildings. This style was the result of the second wave of the Renaissance that came from Germany, bringing with it German and Flemish workmen who introduced the strapwork motives and pattern book designs, executing them in plaster, wood and even in stone. The doorways of Busch Hall, with their varied classic entablatures, keystones and short, stubby pilasters, or the low entrance towers with the strapwork balustrade at the top, convince one that their designer was able to handle a transitional style with much of the adroitness of the original craftsmen.

Ridgley Library, opposite University Hall, shows a curious mingling of styles. Its prototype, St. John's at Oxford, shows Italian rather than German influence. The Oxford facade is entirely free from all the heaviness of the undeveloped period of German origin. The arcade on the first story is far more Italian than most of the work of that period, while the small twin windows in the second story and the crenelated parapet are purely Gothic. The central pavilion of superposed columns enclosing the niche on the second floor are, again, very Italian. While this modern adaptation of St. John's is the same facade, it is further studied and developed. The arcade has been strengthened; the second-story windows are enlarged and "Renaissanced";



FIREPLACE IN READING ROOM OF LIBRARY —WASHINGTON UNIVERSITY, ST. LOUIS, MO. COPE & STEWARDSON, ARCHITECTS



ENTRANCE TO CHAPEL—WASHINGTON UNIVERSITY, ST. LOUIS, MO.
COPE & STEWARDSON, ARCHITECTS.



THE CHAPEL—WASHINGTON UNIVERSITY, ST. LOUIS, MO. COPE & STEWARDSON, ARCHITECTS.

the crenelations remain and the central motive holds a large mullioned window on the second floor, while slender towers are added to the four corners of the building, recalling Charlecotte Manor. The small details, such as the band course above the arcade, are late Elizabethan. Daring is this facade wherein three periods blend, a veritable tour de force, serving likewise to unite the different periods employed. The beautiful reading room is in the much later style of Sir Christopher Wren, whose small London churches are recalled by the exquisitely modeled plaster ceiling.

This quadrangle is the center of all student life and activities. Here the students meet before going to their lectures and here they congregate to discuss the various incidents of college life. An ideal retreat, this quadrangle, where every sound from the outer world is shut out by the ivy-clad walls or lost in the depths of the arcade. Christ College Quadrangle at Oxford, hallowed as it is by centuries, and by the names of many of the distinguished men of England, separated from the noisy street only by Tom Tower, cannot compare with this Quad at Washington; nor can King's Quad at Cambridge compare with it. We must seek the lovely backs of Cambridge, those velvet swards, those silent elms, those endless walks—

"Whenever free to choose
Did I by night frequent the college groves
and tributary walks."

Such is the atmosphere of this quadrangle, an atmosphere that comes with perfect repose, produced by architecture based on aesthetic truths. We experience this same feeling before a Madonna by Raphael or a landscape by Constable; in the ruined abbeys of England, or Normandy; or in the monasteries of Northern Italy. In the early morning, before the student activities begin, or at evening by twilight when we hear the Tower clock strike out the hour, but little imagination is needed to carry us back to the old world.

Quitting this first quadrangle, we pass along the wing of the Library and Eads Hall, buildings which form part of the enclosure of two future courts. Eads Hall, occupied by the Physical Laboratory, and Cupples Hall No. 2, occupied by the Mechanical Engineering Department, are both splendidly adapted to their uses. They recall here and there, in the doorways and gables, the Elizabethan manor houses, but beyond these details, they are nothing more than utilitarian buildings, serving well their purposes.

From Eads Hall one passes down an avenue of maples to the chapel and the men's dormitories. The bijou of this group is the Graham Memorial Chapel, of which the general form and main motives are taken from King's College Chapel at Cambridge. The Graham Memorial Chapel, scarcely one-third the size of King's Chapel, and with every proportion greatly changed, on closer examination exhibits very little in common with its prototype. Loftiness is the striking characteristic of King's College Chapel, of which the end facades, very slender in proportion, have almost an effect of being stilted. The end facades of the chapel at Washington are open, perhaps, to the criticism of being slightly squatty. The corner towers, nearly identical with their English examples, while less slender, are indeed graceful and elegant, forming a most delicate silhouette. The side bays, given over almost entirely to glass, add the desired effect of height. The glory of the Cambridge Chapel is its interior, whose lofty fan-vaulted ceiling has no equal in all England. The interior of the Graham Memorial Chapel bears no comparison to the English chapel; but it is, nevertheless, most successful and we may truly say that it is "a thing of beauty and a joy forever." Serving as a chapel in an undenominational institution, this one must forever want the one central motive, the heart, the spark to give it life, the centralizing and glorifying motive of the altar, without which a Gothic Church at times seems incongruous. Of this chapel, Mr. Cram would probably say, as he does of Trinity in Boston, "a church without a soul." But for all this, here is a work of art, whose every detail is worthy of the closest study, and whose wonderfully carved organ and choir stalls, roof trusses

and stained glass, are rarely met with in the modern work of either America or Europe.

As we leave the chapel, a broad walk overhung by maples leads through two groups of dormitories. Only separate buildings have thus far been erected, but eventually they will form sides of different courts. Tower Hall, while medieval in character, in its window treatment, bays and oriels, is given a marked domesticity. The massive central tower over the archway with the smaller secondary tower mounting higher, forms a composition quite pleasing. The dignified and quiet facade of Liggett Hall has much of the feeling of the Elizabethan manor. The varied bays, gables, massive chimneys and quaint doorways give interest to a whole composed with restraint and simplicity. Indeed, quite different are these dormitories compared to those by Cope and Stewardson at the University of Pennsylvania. The entire group at Washington shows scarcely as many different motives or decorative details as any one building at Philadelphia. Yet upon the whole the balance of favor will fall to the lot of Washington.

A very considerable start has been made in the dormitories for women. McMillan Hall encloses the three sides of a quadrangle. While less quiet than either Tower or Liggett, McMillan Hall composes into more varied and picturesque silhouettes.

If we seek here for every structural and logical principle that dominated either Roman or Gothic art, we shall be forced to call these buildings of a debased style. But if we seek honesty and truthfulness of construction we shall find it here. This work of Cope and Stewardson, marked by a strong personality, has the stamp of the artist and craftsman.



CUPPLES HALL NO. 1.



KITCHEN PORCH—HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA. DUHRING, OKIE & ZIEGLER, ARCHITECTS



HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.

# A MODERN VERSION OF THE EARLY PENNSYLVANIA COUNTRY HOUSE

## RESIDENCE of WILLIAM T. HARRIS, Esq. Villa Nova. Duhring, Okie & Ziegler, Architects

BY C. MATLACK PRICE

THOSE critics who are wont to deplore the absence of an architecture essentially American would, perhaps, come nearer to hitting their mark if they were to deplore more vigorously the over-supply of imported architecture which not only retards the ultimate development of American architecture but also quite drowns out such American architecture as really does exist.

Not only is there an American architecture, but several types of American architecture quite distinct in their several characteristics and in the traits resultant from and peculiar to their *locale*. We can even afford to omit from the catalogue that style which is called "Mission" or "Californian," for by the time there have been taken from them all traces of derivation either Spanish or Japanese, there remains little but the floor plan.

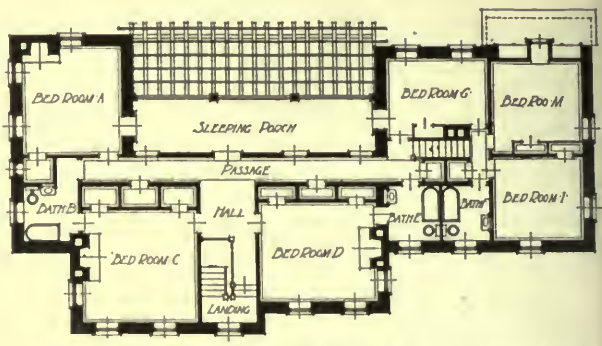
Distinctly, however, there are the dignified Classic Revival of the Southern States, the severe type of Colonial of the New England States, and the quaint Dutch Colonial of certain parts of New Jersey and New York, as well as that type of Colonial home essentially peculiar to Pennsylvania.

These different architectural expressions are certainly to be regarded as logical national property, because they are fairly accurate reflections of contemporary and local characteristics, ideas, and ideals.

The Southern mansion, for example, was a reflection of the general dignity and lordliness concomitant with the idea

of a large slave-holding estate, owned, for the most part, by direct descendants of English nobility, or by noble colonists of actual title. And these fine gentlemen, in building, very naturally found architectural expression in terms of the classical tastes in contemporary culture.

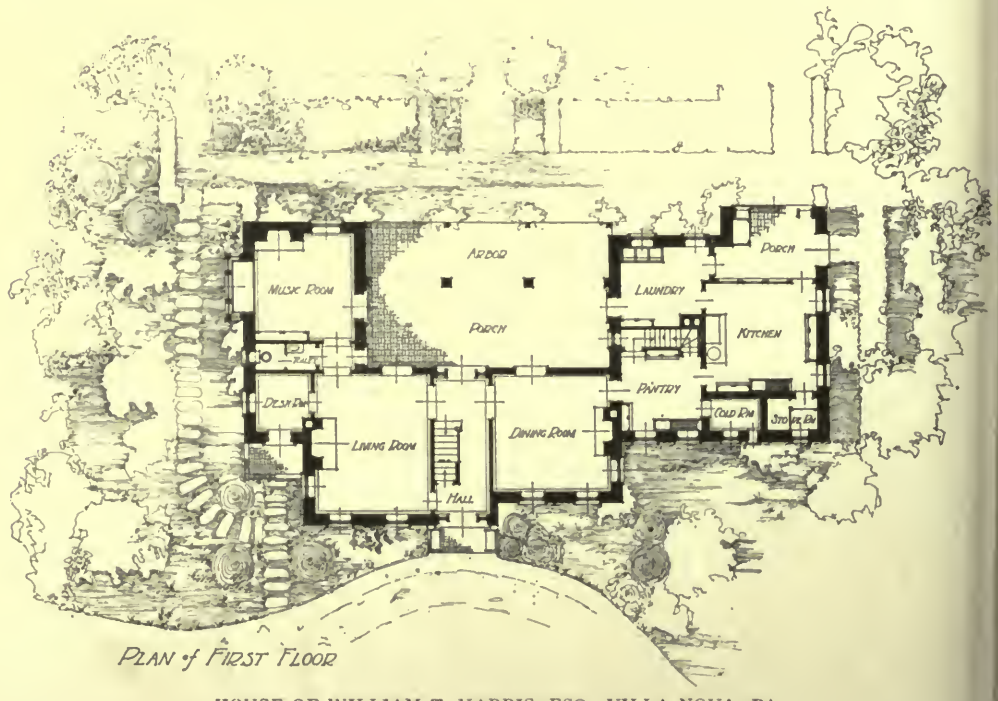
The severity of the New England type was a reflection of the austere creed developed from Puritanism; the sturdy simplicity of the early Dutch farmhouses was a reflection of the rugged characteristics of no less rugged pioneers; and the Pennsylvania type was a reflection no less true of salient local characteristics. These houses of the early Pennsylvanians were of two kinds, or a blending of both. There were the sturdy farmhouses of the simple pioneers, the more stately homes of the more aristocratic, and the substantial dwellings of a well-bred "middle class."




SECOND FLOOR—HOUSE OF WILLIAM T. HARRIS, ESQ.

Here would appear to be a wealth of material for our present day architect which should afford him a considerable and sufficient range of architectural expression. But this American architecture, taken collectively, has been put into competition with French, Italian, English, Swiss and a score of styles and sub-styles of Europe, so that, in comparison, it has appeared to the superficial observer a sorry enough affair, simply because most of us are not sufficiently well acquainted with it.

There is one quality of inestimable




HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.



MAIN ENTRANCE AND ENTRANCE TO "DESK ROOM"—HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.

value which may be said to be common to all the types of American architecture mentioned above, and that is the quality of domesticity, which many more pretentious renderings of imported styles have often failed to express. By all means domesticity should be reckoned the most important quality which a home should possess, yet it is a quality surprisingly rarely met with in this country. It is not entirely remarkable that early American architecture should have developed the quality, and very consistently expressed it, because early American architecture came before the day of the "show place," the artificial social index of the *nouveau riche,* and because the old days were days of simplicity and honesty in such matters, when a home was a home, and not an architectural advertisement.

And in the matter of the ultimate "arrival" of an American architecture, this is an important circumstance to take into consideration, because no expression in the arts, whether painting, sculpture, or architecture, can ever attain significance if it be either an imitation or a bid for attention. It must be a sincere expression of conviction, not only on the part of the architect, but of the public, which brings us to the subject of this article—a recently designed house at Villa Nova, in Pennsylvania, by a Philadelphia firm of architects.

The firm, Messrs. Duhring, Okie and Ziegler, are peculiarly successful in that they have consistently effected a latter-day translation of an early local type of house, without loss therein of any of the charm or significance of the original, but rather with an added touch of advanced architectural taste and ability. This has been evidenced in much of the previous work of the firm, wherein a fine sympathy with the style as it was in early times has been combined with an unusual ability to improve upon it in many modern details and in a certain kind of well-bred good taste which tells its own story to laymen no less directly than to architect.

In developing the early Pennsylvania country house into a modern dwelling, Duhring, Okie and Ziegler have made it both a home, livable and intimate, and a more polished architectural expression,



OBLIQUE REAR VIEW—HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.



OBLIQUE FRONT VIEW—HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.



SIDE VIEW—HOUSE OF WILLIAM T. HARRIS, ESQ., VILLA NOVA, PA.
Duhring, Okie & Ziegler, Architects.

which, logically, is exactly what should take place in the rendering of any adaptation.

This house at Villa Nova is especially happy in its setting, an old-fashioned garden—or if one were to take it the other way, the charming garden is fortunate in that it lies about so picturesque and pleasing a house—and here we find the complementary relationship which should (but does not always) exist between architecture and gardening, wherein each gracefully bows to the other, as in the measure of an old minuet.

The plan is an interesting one, simple yet diverse, and giving evidence of pleasant rooms quaintly disposed about a living porch, which recesses the "garden front" of the house, and affords a spacious sleeping porch above. Although the plan is not that of a really large house, there is provided, between the music-room and the living room, a little "desk-room," or "office," which is a very sensible feature of many English country house plans, in that it affords a place apart from the house, yet convenient, where gardeners, coachmen and other employes about an estate may be interviewed or paid off without encroachment upon privacy.

Six bed-rooms, three baths, a large sleeping porch and numerous closets make an adequate arrangement for the second floor, and complete a well-studied plan.

The reserve with which the detail of the house has been handled is at once characteristic of this firm of architects and explanatory of its success in rendering modern versions of the early Pennsylvania type of country house. There are few factors, but these must be handled the more skilfully for that reason—well-laid fieldstone, studied (yet apparently simple) mouldings, very reserved, panelled wooden shutters, quaint hardware of the period—these are the elements, governed generally by a consistent simplicity and sincerity of feeling throughout.



A HUMOROUS FOUNTAIN IN MUNICH
FOR COMMENT, SEE PAGE 96

# PORTFOLIO OF CVRRENT ARCHITECTVRE



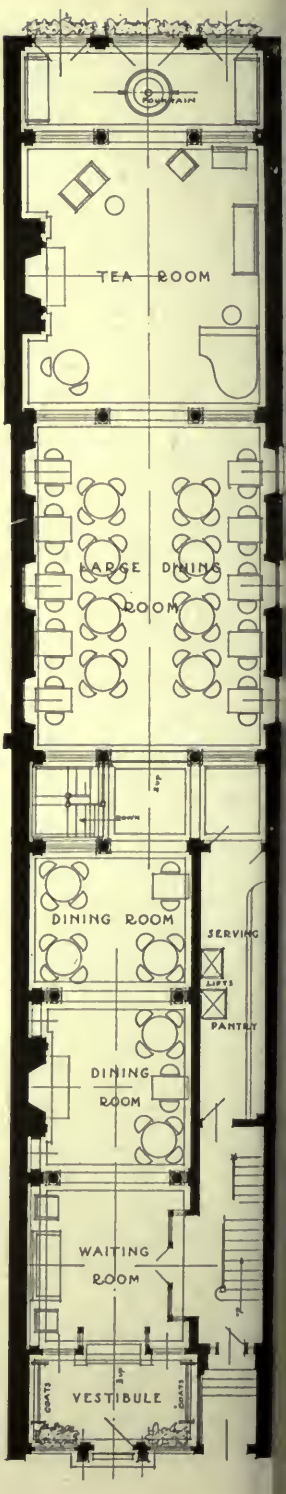
DETAIL OF VESTIBULE—ASSEMBLY TEA ROOMS, BOSTON. CHARLES M. BAKER, ARCHITECT.



THE ENTRANCE—ASSEMBLY TEA ROOMS, BOSTON.
Charles M. Baker, Architect.



VIEW SHOWING PART OF LARGE DINING ROOM, TEA ROOM AND FOUNTAIN—ASSEMBLY TEA ROOMS, BOSTON.





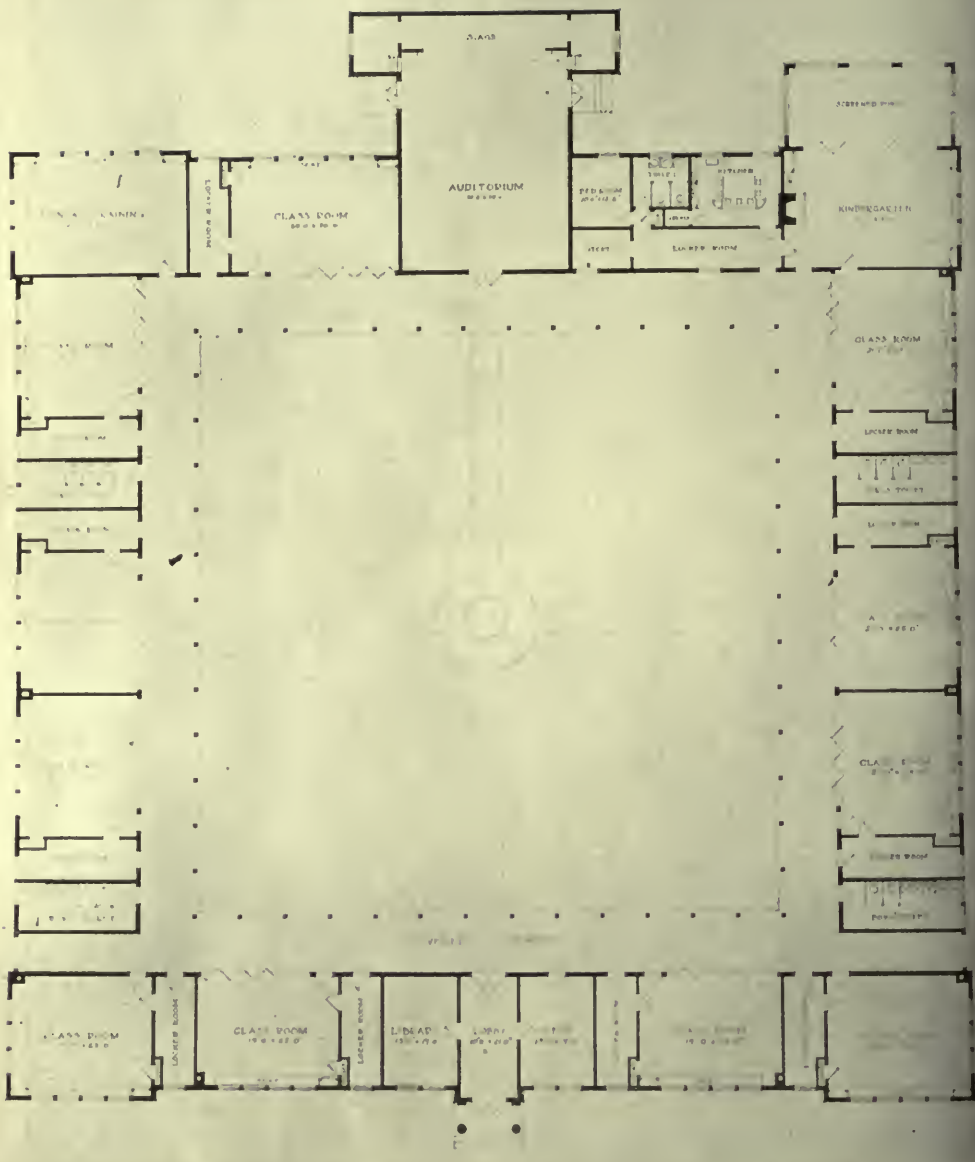
TEA ROOM AND FOUNTAIN—
ASSEMBLY TEA ROOMS, BOSTON.
CHARLES M. BAKER, ARCHITECT.



A CORNER OF THE TEA ROOM—
ASSEMBLY TEA ROOMS, BOSTON.



A CORNER OF THE WAITING ROOM —ASSEMBLY TEA ROOMS, BOSTON. CHARLES M. BAKER, ARCHITECT.




PLAN OF THE FRANCIS W. PARKI
SCHOOL OF SAN DIEGO, CAL. W
TEMPLETON JOHNSON, ARCHITEC



FRONT ELEVATION—FRANCIS W. PARKER SCHOOL OF SAN DIEGO.
Wm. Templeton Johnson, Architect.



SOUTH AND WEST WINGS—FRANCIS W. PARKER SCHOOL OF SAN DIEGO.
Wm. Templeton Johnson, Architect.



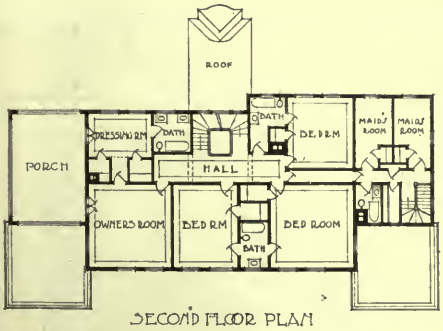
COURT AND OPEN CLASSROOMS—FRANCIS W. PARKER SCHOOL OF SAN DIEGO.
Wm. Templeton Johnson, Architect.



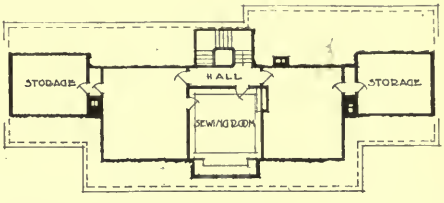
OPEN AIR CLASSROOMS—FRANCIS W. PARKER SCHOOL OF SAN DIEGO.
Wm. Templeton Johnson, Architect.



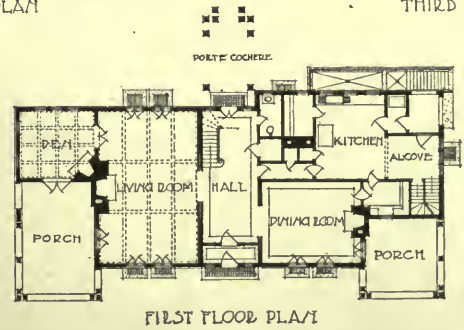
HOUSE OF W. E. MARBLE, ESQ., GREENWICH, CONN.
Rowe & Smith, Architects




SECOND FLOOR PLAN




THIRD FLOOR PLAN

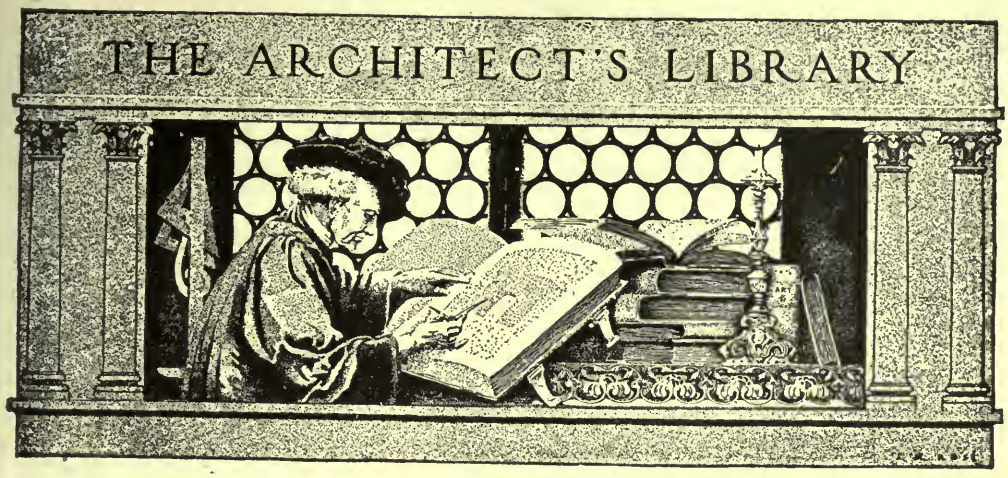



FIRST FLOOR PLAN

THE FLOOR PLANS—HOUSE OF W. E. MARBLE, ESQ., GREENWICH, CONN.
Rowe & Smith, Architects



ENTRANCE—HOUSE OF W. E. MARBLE, ESQ., GREENWICH, CONN.
ROWE & SMITH, ARCHITECTS.




# TWO BOOKS BY PRACTICAL THEORISTS

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART I.

A PRACTICAL theorist is a useful person, a helpful adjunct to his profession and a mentor for the tyro. He is in fact a necessity; without his species any profession may readily fall subject to disorganization, for his method is the method of much teaching, combining practice with the setting up of resultant principles. His efficiency consists in his ability to fashion realities of thought out of a multitude of examples, facts and experiences, a process the logicians call induction. His real value lies in the actuality of his theories, in their present and modern applicability. Theoretics alone are but mental gymnastics, resulting in generalities that glitter but are not proof against the stern truth of practice. But the practical theorist possesses the salutary quality of moderation, of restraint; he does not rush in where the sedate practitioner fears to tread, but holds his fire until experience has been tried by time and repetition. Out of this attitude wholesome theory may readily be evolved, and such a body of theory may then rightly demand the attention of those who practice only and never preach. For, contrary to the time-worn maxim, practice may be relied upon to make perfect only if constantly revised and corrected. Eminent among the practical theorists are Mr. Edwin Howland Blashfield and Mr. Ralph Adams Cram.

In *Mural Painting in America* (Scribner's; 8vo; $2.) Mr. Blashfield has published, with many additions, the Scammon Lectures of two years ago, read before the Art Institute of Chicago. We have latterly grown accustomed to look up to Mr. Blashfield and to Mr. Kenyon Cox, both painter-writers, gifted with a lucid and fluent manner of writing and an inexhaustible fund of knowledge and experience, as arbiters of stylistic truth of the present in their important profession and sympathetic interpreters of the stylistic truths of the past. Only recently Mr. Cox published the Scammon Lectures for 1911 under the title *The Classic Point of View;* and we had been expecting the sequel to this volume from Mr. Blashfield, whose attitude is much the same, though his angle of vision may be somewhat different. We

are glad to find him now expanding his original series of papers into a sizable volume, containing about twice the quantity of the material primarily prepared, and fully illustrated with carefully chosen subjects representing all phases of mural painting in this country.

Mr. Blashfield's book gives us a mass of theory and of practice, a concise historical treatment, a discussion of methods and results, a number of anecdotes of men and times, and a wealth of counsel between the lines, all bound together in one of the most readable volumes that has ever undertaken an exposition of this little appreciated field. In his foreword the author says: "Mural painting may safely be called the most exacting, as it certainly is the most complicated form of painting in the whole range of art; its scope includes figure, landscape and portrait; its practice demands the widest education, the most varied forms of knowledge, the most assured experience. Save by the initiated it is apt to be misapprehended as a form of art at best demanding little but arrangement, fancy, lightness of hand, at worst as a commercial product calculable as to its worth by the hour and the square foot." Let us hope the case for mural painting in America is not quite so bad as that.

The scope of the work is adequately indicated by its analyzed table of contents, and its ultimate value might be assured by any one of the individual chapters included. So we have, for instance, "The Importance of Decoration," subdivided into separate disquisitions upon "the decorated building as a teacher"; "the main factors in our decorative tradition"; "the focal importance of the public building," and "national art as a national asset." In similar manner each chapter contains a series of essays on associated subjects, grouped under a unifying major title.

Both Mr. Blashfield and Mr. Cox undertook to plough the same furrow, but they began at opposite ends. Thus the latter treated the classic spirit in art and its influence upon the art of to-day, both "positive and potential." He devoted chapters to extended considerations of subject, drawing, color, etc. Mr. Blashfield declares his purpose under the title: "The Modern Tendency in Art as Influenced by the Spirit of the Past."

The author first brings together a number of substantiating reasons why the art of mural painting should be considered an art of lasting significance and national importance. He refers in the first place to the past and the influence of painting and mosaic at a time when books were not available as a spur to the intellectual life of the people. The mural painting commemorated the national hero or the protecting saint, the local patron, in short, the allegory, the history, the legend of a given time and place. He who had business in a public building, be it church or hospital, weighhouse or city hall, found there the record of deeds of a great past, or the beauty of a folk story, or yet again the counsel of a high ideal. The eye and the ear are both handmaidens of the mind, but the mind reads more rapidly than the eye, although the best of rhythm and movement is conveyed by the ear. Thus every decorated structure teaches, and, by way of corollary, every decorated structure should teach; especially is this true of the public building, for it is a representative structure; it is in a sense a concrete statement of the ambitions of a number of minds actuated by questions of mutual benefit. It is but little recognized as yet in this country that national art is a national asset.

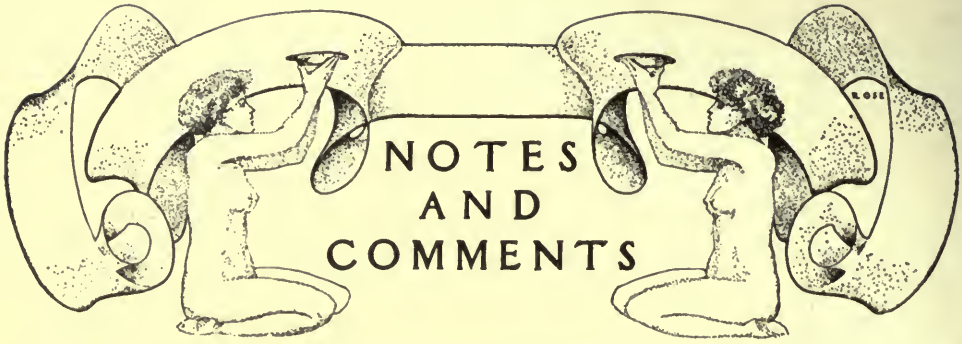
Mr. Blashfield's pen flies from well-moulded phrase to sharp command; he advises, he relates, he depicts. Whatever his momentary mood, through the whole of his fabric runs the golden thread of love for his art; out of the fullness of his heart he gives his best and surely his earnestness is not without avail. We quote the conclusion of his chapter on the importance of decoration: ". . and if I had to raise a statue to the typical promoter, whether of matters spiritual or material, I would make him a god Thor, and gird him, with his weapon to hammer, hammer, hammer, again and again in the same place. And he would be no serene god, . . but a striker of discords. First, and longest, and hardest, he would smite in beating

out from the amorphousness of our indifference a conviction—the conviction of the importance of public art—that it should be at least as good as the very best, because placed the most conspicuously, and therefore of all art that most likely to impress and teach the people. Next he would have to strike long and hard in emphasis of the importance of harmony, the mutuality of architect, sculptor and painter in any decorative undertaking, to strike until he had welded the three into one ingot and fashion from it a weapon ten times as tempered to its purpose as it ever could have been in the personality of any one of these artists divided from their trinity. . . The next thing to be placed on the anvil should be fashioned into a symbol of the importance of experience in the decorative artist. . . . Experience, reiterated and hard-bought experience, is absolutely necessary to him, and in no wise is the lengthening repetition of hammer strokes more typical than it is of this continuity of effort, this long succession, now of essay, now of blunder, now of half-success, fusing at last into a harmonious result. . . ."

Sage counsel may be gathered from the succeeding chapters on harmony between building commissioner and architect, between building commissioner and mural painter, and among mural painters themselves, not to speak of mutuality between mural painter and architect. On the whole we like the authoritative character of Mr. Blashfield's writing. If his pen prods the American appreciation and understanding of mural painting and its importance into activity and life, it will have done a monumental service. His own standard of excellence is high, but it is the measure of himself; he is therefore justified in proclaiming it as a dictum, with somewhat of a tone of finality that demands attention. Indeed, we might cull a number of pointed paragraphs from the present volume and bind them into a useful manual for architects and decorators—and assuredly for the public.

The poor building commissioner is shorn of every shred. Artistic sense he has none. "The building commissioner thoroughly understands the man who puts in the wires for the lighting, but the artist and he speak different languages." We would like to go on at greater length to indicate the chief points of Mr. Blashfield's other sub-headings in this second chapter, *e. g.,* the selection of the artist, competition vs. appointment, and finally the control of the architect. The apotheosis of the architect follows: "Historians of art have celebrated the many-sidedness of the Renaissance architect, who could build domes and paint miniatures, play the lute and write sonnets, carve intagli and colossi; but even of them we may believe were hardly exacted more kinds of knowledge than of the modern architect." And again under the topic "mutuality between architect and mural painter" we come upon these significant words: "In the effort toward mutuality, vital to the success of any great enterprise in decoration, the architect is then essentially the head and commander-in-chief. He designs the building and assigns to each sculptor and painter his place in it. But if this is his unquestionable right, it is also his privilege to expect and to receive authoritative assistance from both sculptor and painter, not only as their work progresses, but even before it begins. In a general way he, the architect, knows beforehand what manner of man is suited to some special work, but in a particular way that man, once selected, knows in turn how to fit his own temperament to that work and how he may best suggest amplification of elaboration of it."

Later on the mural painters themselves are taught to be good yoke-fellows, working harmoniously and with self-sacrifice at the exacting task of collaboration. But we have not space to discuss all the excellent features of this fine volume. It will prove a Poor Richard's Almanack for painter and architect, if not indirectly for the sculptor. The public at large should have it by heart, for it contains the whole theory and correct practice of mural painting, the most important educational factor of modern building.




**A Humorous Fountain in Munich.**

One of the most charming pieces of contemporary sculpture that has come to our notice is the little fountain in Munich given by the sculptor, Gasteiger, to the city, and erected in the Karlsplatz, on the site of a portion of the old city wall. (See page 82.) This amusing conception, placed in a secluded part of the square, and surrounded by planting, is altogether free from the heaviness that characterizes the greater part of recent German sculpture. The figures are skilfully modeled, and the spirit of the whole composition is full of the gayety that permeates the gargoyles of the Gothic cathedrals and the pastorals of the eighteenth century, and that is so rarely found in the monumental sculpture of the present time, either in Europe or America. It is, in fact, typical of the city of Munich, the one place in Germany which, despite the archaeological monstrosities imposed on it by some of its rulers during the past hundred years, has preserved a great measure of the spirit of the middle ages, that spirit of simplicity and good-fellowship that is now so rare.

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**A New Type of Open-Air School.**

The Francis W. Parker School of San Diego, designed by Wm. Templeton Johnson and illustrated elsewhere in this number, is believed to be the first school in the United States for which folding sliding-doors have been used in making the building an "open-air" school. By arranging the rooms in the way adopted and planning the school as a quadrangle, the students are protected from wind currents, and yet at the same time have as fresh air in the classrooms as there is out of doors. It was found last winter that only on two days during the whole winter the doors had to be closed, and even then the ventilation in the rooms was as good as that in the ordinary school building, as there are transoms above the outside windows and above the folding doors as well. A little more than two wings of the finished plan have already been completed, and a beginning has been made in the work of planting the interior court with California wild flowers and shrubs.

In a letter, from which we take the liberty of quoting, Mr. Johnson writes:

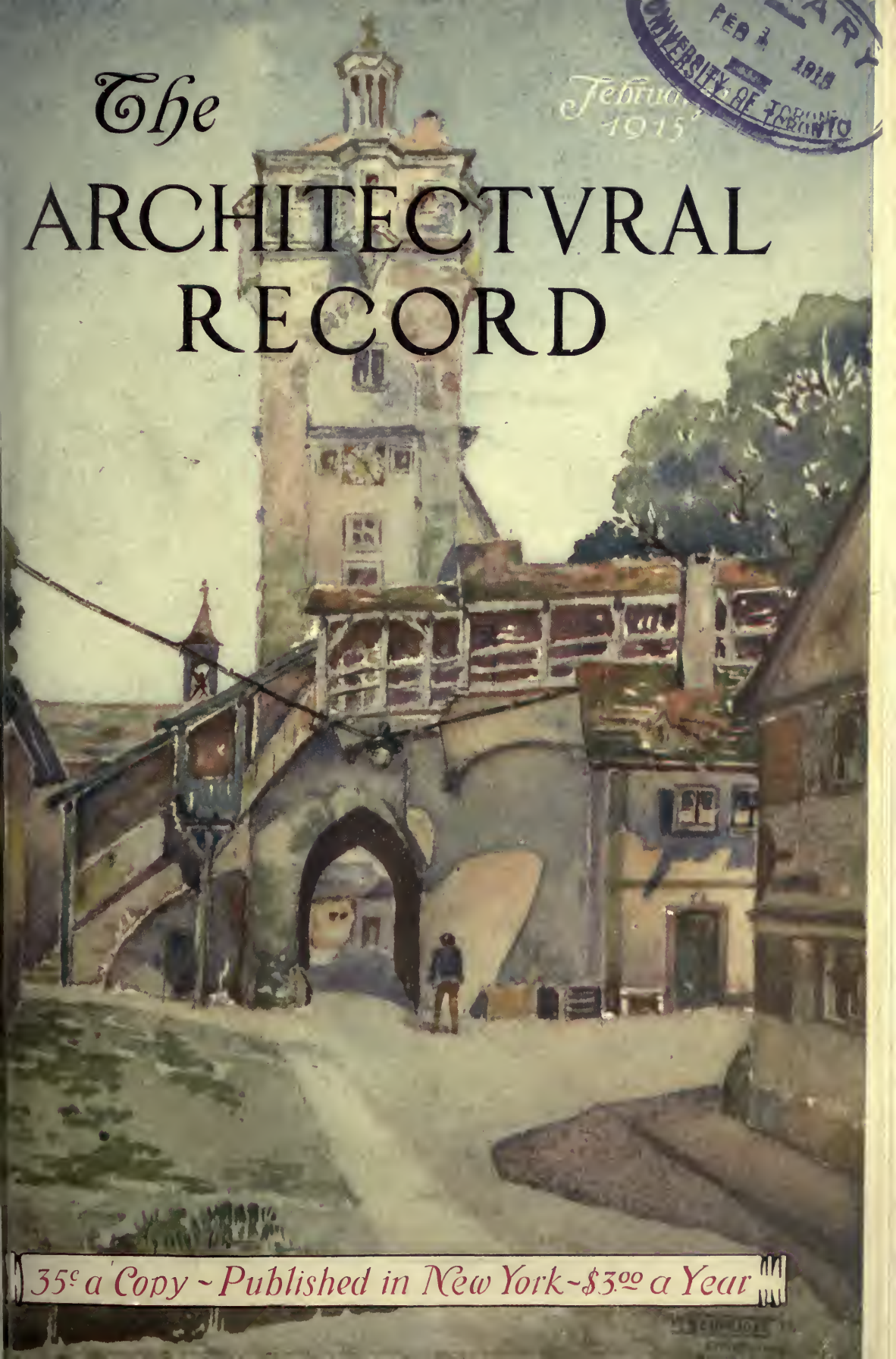
"Climatic conditions in Southern California are exceptionally good for the use of open-air school buildings. Before coming to California two years ago, I had offices with my cousin, Mr. Warrington G. Lawrence, in the Brunswick Building, and when I told him that the climate of San Diego is so mild that most people have no artificial heat in their houses, yet so cool that the majority of them do not use any ice, and that there is so much sunshine that people use what are known as solar heaters, which automatically employ the sun's rays to manufacture the household hot water supply, he naturally thought I was lying; but such are the facts."

The Francis W. Parker School of San Diego is modeled, as to educational principles, after the school of the same name in Chicago, founded in honor of Col. Francis W Parker, noted for his work in connection with the schools of Cook County, Ill.; and is financed by people interested in progressive educational methods. The building is being erected on the multiple unit plan. When entirely completed it will form a hollow square with an open court about a hundred feet square in the center, surrounded on all sides by a covered portico. All the class rooms open on this portico, and their inner walls are arranged with folding sliding-doors, by means of which the rooms may be thrown completely open on the portico. Both the folding doors and the wide French windows which glaze the outer walls have transoms above them. The classrooms have small wood stoves, which are used on wet days.

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# THE ARCHITECTVRAL RECORD

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DOORWAY IN BANKING ROOM—BANKING HOUSE OF J. P. MORGAN & CO., NEW YORK CITY. TROWBRIDGE & LIVINGSTON, ARCHITECTS.

97.

# THE ARCHITECTVRAL RECORD

FEBRVARY, 1915

VOLVME XXXVII NVMBER II

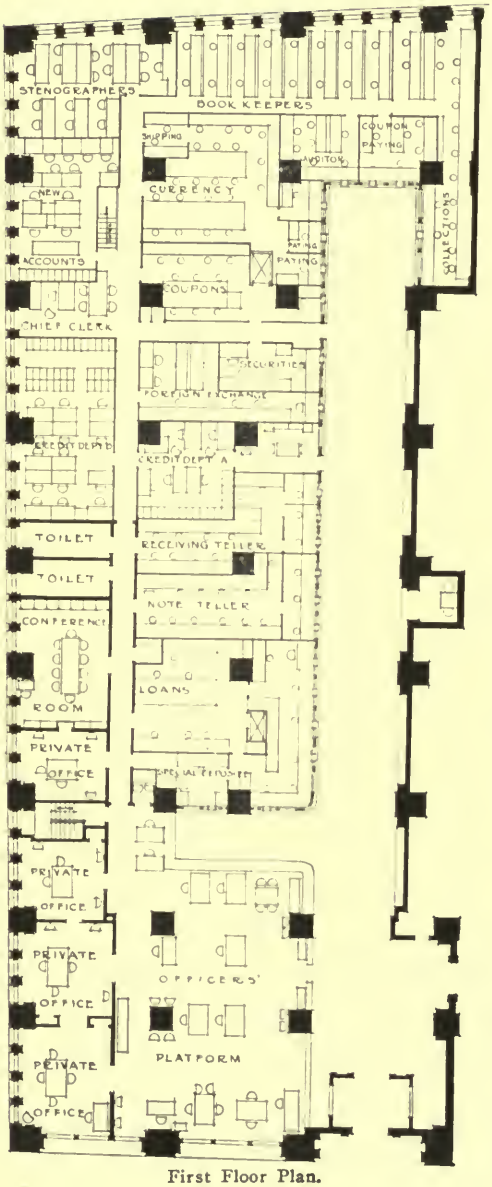
## SOME RECENT BANK PLANS
### The WORK of THOMAS BRVCE BOYD

BY JOHN J. KLABER

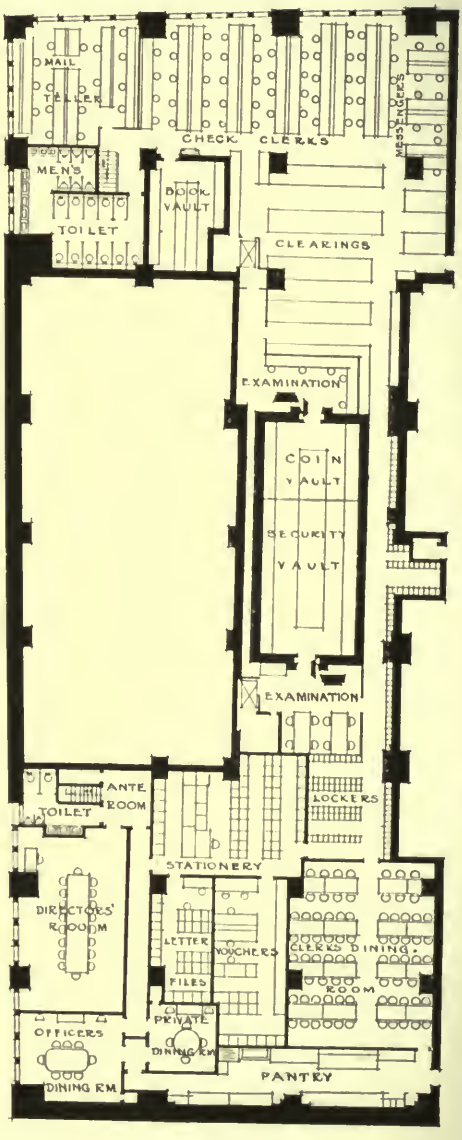
THE planning of a large banking institution is a task for which neither the average banker nor the average architect is particularly well fitted. The banker lacks knowledge of building, has difficulty in reading plans, and is usually too busy to enter into the mass of detail necessary to an efficient plan. The architect, on the other hand, is not sufficiently familiar with bank administration, and cannot give the problem the time necessary for an adequate study of all the factors involved. In the smaller installations, and with a small architectural practice, it is true, the problems are sufficiently simple so that the architect has time to solve them himself, but as the difficulties multiply, and the architect's time is more and more occupied by the complexity of the organization under his command, the need of a new method of attacking problems of this nature becomes increasingly apparent. It is this state of affairs, existing particularly in New York City, that has given rise to the new profession of the bank specialist.

The specialist does not, and in fact cannot, replace the architect, for in so doing he would become an architect himself. His function is, either as a consulting expert or as an outside adviser, to collaborate with the banker and the architect in forming an efficient layout, determined by the special requirements of the institution, and co-ordinated with the constructive necessities of the building.

Mr. Thomas Bruce Boyd has chosen to devote himself to this particular phase of the great efficiency movement of the present generation, and has collaborated in the planning of many of the largest banks of recent date, as well as in some commercial institutions of other kinds. It has been his aim to secure the greatest efficiency with the space available and for the purposes required, to save for the banker both in initial cost of equipment




First Floor Plan.




Basement Floor Plan.

THE CHASE NATIONAL BANK, NEW YORK CITY. KIMBALL & ROOSA, ARCHITECTS.

and in time and expense of future operation; in short, to raise the standard of bank planning to a point of scientific perfection not previously attained. The degree of his success can best be shown by a description of a few of the installations for which he is responsible.

One of the newest and most important of the bank plans in which Mr. Boyd has collaborated is the Chase National Bank, in the new Adams Building, of which Messrs. Kimball and Roosa were the architects. This vast interior, two hundred feet long and seventy feet wide, has been laid out with a view to the maximum efficiency. Entering from Broadway, one finds, directly on the left, a large platform with the desks of the bank's officers, the more important of whom have additional private offices adjoining, along Exchange Alley on the side of the building. The grouping of the officers' desks in an accessible location near the entrance is a feature on which Mr. Boyd lays much stress, as he considers it of great importance in maintainng and establishing a friendly relation between the bank and its customers.

Beyond the officers' space we find the loan department, sheltered by the customary screen, and in a corner near the officers the telephone switchboard, alongside which a corridor runs from the officers' desks to a conference room for their use, lighted also from Exchange Alley. From the loan department a lift, centrally located, descends to the basement, which is also reached by stairs convenient to the private offices. Beyond the loan department are the credit and foreign exchange departments, the tellers, auditors, and other employees who handle currency, and in the extreme rear, on Trinity Place, the stenographers and book-keepers. A second lift, near the tellers, leads also to the basement, as does an additional stairway near the chief clerk's office.

The public space, narrow as it appears on the plan, is in reality not less than fourteen feet wide, and its apparent narrowness is due to its great length, nearly one hundred and sixty feet. Along one side runs the screen with its many windows, while on the other check desks are arranged in the intervals between the structural columns. While the proportions of the space are not particularly fortunate, it is scarcely possible to imagine a way in which any real improvement could have been effected, in view of the shape of the ground and the necessity of an entrance from Broadway, the narrowness of Exchange Alley making it almost valueless as a thoroughfare, and certainly quite impossible for the main entrance of a great banking institution.

The basement of the Chase National Bank is used mainly for storage purposes. In the center is the vault, divided by a light screen into two independent parts. The larger part, used for securities, is reached by the lift from the loan department, through an examination space, while the other portion, used for currency, is similarly reached by the second lift. The vault is closed by two heavy doors at each end, and a narrow observation gallery protects it at the side.

Near the vault are lockers, and storage for stationery and filing. The locker room gives access to the clerks' dining-room, next to which is a pantry, into which the food, cooked by an outside caterer, is brought by a separate entrance. The same pantry is used to supply the officers' dining-room, as well as a smaller private dining-room used occasionally by the president of the bank. The directors' room, adjoining the officers' dining-room, is entirely separated from it, and is reached directly by the stairs from the officers' space on the main floor.

Back of the vault, on the same floor level, are the mail and check clerks, and the messengers. Here also is the book vault, to which the second lift and the stairs give convenient access, and a capacious toilet room. The level of Trinity Place is about ten feet below that of Broadway, so that the basement windows at this end are above grade, and the lighting is far superior to that of an ordinary basement.

Without attempting, in this brief outline, to describe in detail the planning of



BANKING ROOM—CHASE NATIONAL BANK, NEW YORK CITY.
Kimball & Roosa, Architects.



BANKING ROOM—CHASE NATIONAL BANK, NEW YORK CITY.
Kimball & Roosa, Architects.



BANKING ROOM—CHASE NATIONAL BANK, NEW YORK CITY—KIMBALL & ROOSA, ARCHITECTS.

the various departments and their relation to each other, a few salient points may be noted. One of these is the arrangement of the working spaces so as to gain the greatest possible use of the natural lighting facilities, while the vault, the public space, and other parts requiring only artificial light were grouped in the center of the plan. Another interesting feature is the arrangement of the lifts, by which all the departments on both floors are placed in easy communication, and which greatly increase the working efficiency of the bank.

In this building, as in Mr. Boyd's other plans, the idea of unit construction has been used wherever practicable. The fixtures have been made of standard sizes, with interchangeable bases, allowing departments to expand or to be shifted in location with the minimum of inconvenience and expense. This is a feature frequently lost sight of in business installations, where inferior fittings are often used because of a slightly reduced original outlay, which may later be expended several times over because of necessary changes that could not be foreseen when the original arrangement was planned.

The architectural treatment of the banking room is comparatively simple, as the bank occupies part of an office building, rather than one designed specially for its use. A richly coffered plaster ceiling is the principal feature of interest. Apart from this there is little architectural elaboration, except for the marble casing of the walls and columns, and the carved counter screen.

A far more finished interior is that of the Guaranty Trust Company, of which Messrs. York and Sawyer were the architects, with the assistance of Mr. Boyd for the planning and equipment. This institution occupies a building of its own, at the southeast corner of Liberty Street and Broadway, the main entrance being, of course, on the latter thoroughfare. The banking room is indicated on the exterior by a large order of columns, on both fronts, those on the Broadway front forming a shallow portico, while on the Liberty Street side the columns are engaged. Above this order a pilaster treatment is used for the portion of the building containing offices, but this is subordinated to the banking room, which is clearly indicated as the main feature of the building.

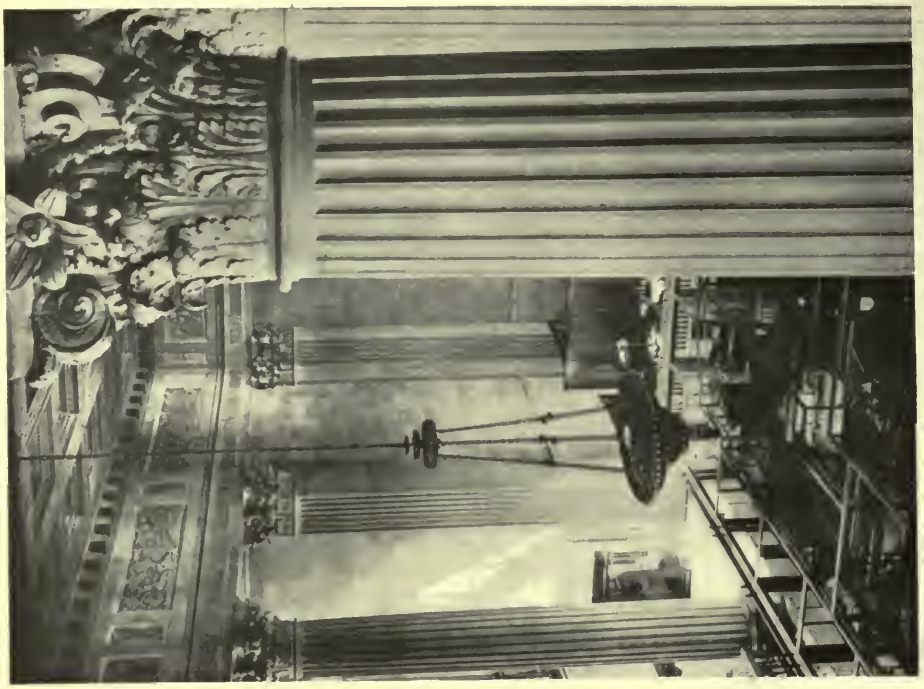
The exterior is of a light gray granite, and the restrained treatment of the decoration results naturally from the refractory nature of this material. The Ionic order used is simply handled, and the manner in which it is inserted in the wall, showing clearly that it is to be considered as a decorative feature without structural significance, is decidedly suggestive. The pilaster order above is also of interest, for while it is Ionic by its proportions and general treatment, the capitals, in some respects, suggest rather the Corinthian.

In the interior of the main banking room the treatment is lighter, due to the employment of marble in the place of granite. The floor is of light gray Knoxville, with mosaic inlays whose design suggests a Pompeian influence, which is to be detected also in the Corinthian columns, whose capitals are of a type frequent in Pompeii, although the best-known example is that of the Temple of Vesta at Tivoli. The treatment of the acanthus leaves, however, is decidedly different from that of the ancient examples. These columns are of Hauteville marble, with an entablature imitating the same material. The walls and counters are also of Hauteville, and the warm buff color of this material gives a more friendly character to the monumental treatment of the architecture. The ceiling is in plaster of a lighter tone, with touches of brighter color, and the grilles of gold bronze.

All the interior treatment is most sumptuous in character, and the casual visitor cannot fail to be impressed with the wealth of the institution that it houses. The architects have inspired themselves from many sources. Besides the Pompeian suggestion, we find Roman motives in the frieze above the columns, Italian Renaissance details in the metal grilles, while Greek coins have furnished the subjects for the carved medallions on the main counter. All these elements have been handled by the architects with the ability that has so long characterized




BANKING HOUSE OF THE GUARANTY TRUST COMPANY, NEW YORK CITY. YORK & SAWYER, ARCHITECTS.



DETAIL OF ORDER—GUARANTY TRUST COMPANY.
York & Sawyer, Architects.



BANKING ROOM—GUARANTY TRUST COMPANY.
York & Sawyer, Architects.



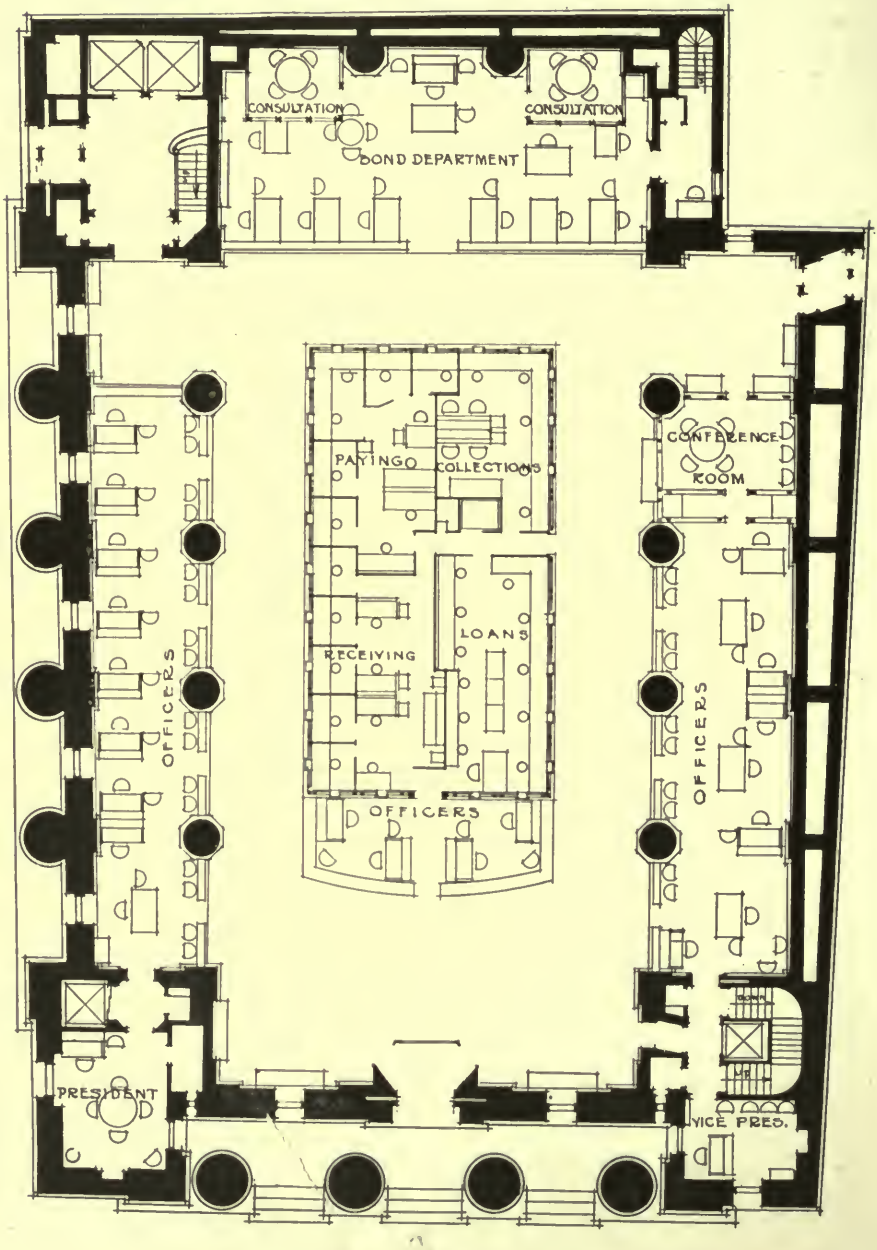
BANKING ROOM—GUARANTY TRUST COMPANY, NEW YORK CITY.
York & Sawyer, Architects.

them, the whole forming a remarkably rich and harmonious ensemble.

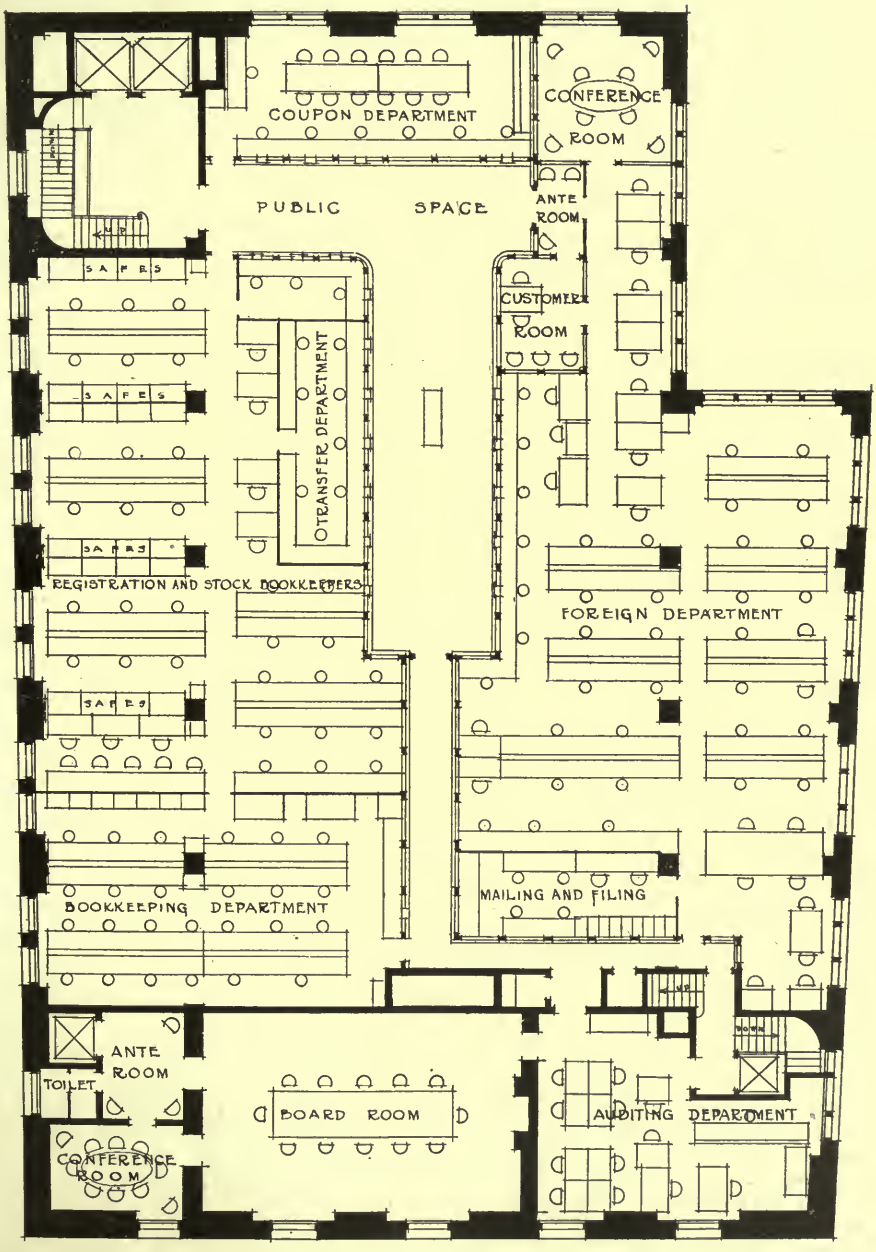
The firm of York and Sawyer have been known for years as bank architects, though this is but one phase of their work. They have probably produced more banks than any other architects, either American or foreign, and one would have expected them long since to have exhausted all the possible types of bank plans. One is therefore agreeably surprised to find in the Guaranty Trust Company a type that is altogether new in its arrangement.

The most striking characteristic of the plan is its openness. While the total width of the interior is over eighty feet, and its length about one hundred and twenty, with a ceiling height of not less than fifty feet, the space enclosed by the bronze grille is only thirty feet by fifty. This unusual proportion is due to the great development of the officers' space, and the relegation to other floors of a great part of the bank's functions. The officers occupy the front part of the central island, as well as the two platforms at the sides, behind the columns, and these spaces are quite open, being surrounded only by a low marble balustrade, the only exception being the conference room at the rear end of the platform on the right, which is enclosed by a grille similar to that of the central working space. The pylon on the left contains the president's private office, as well as an elevator and some minor conveniences; that on the right contains similar accommodation for the vice-president, though his office is reduced in size by the introduction of a staircase, thus preserving due hierarchic proportion.

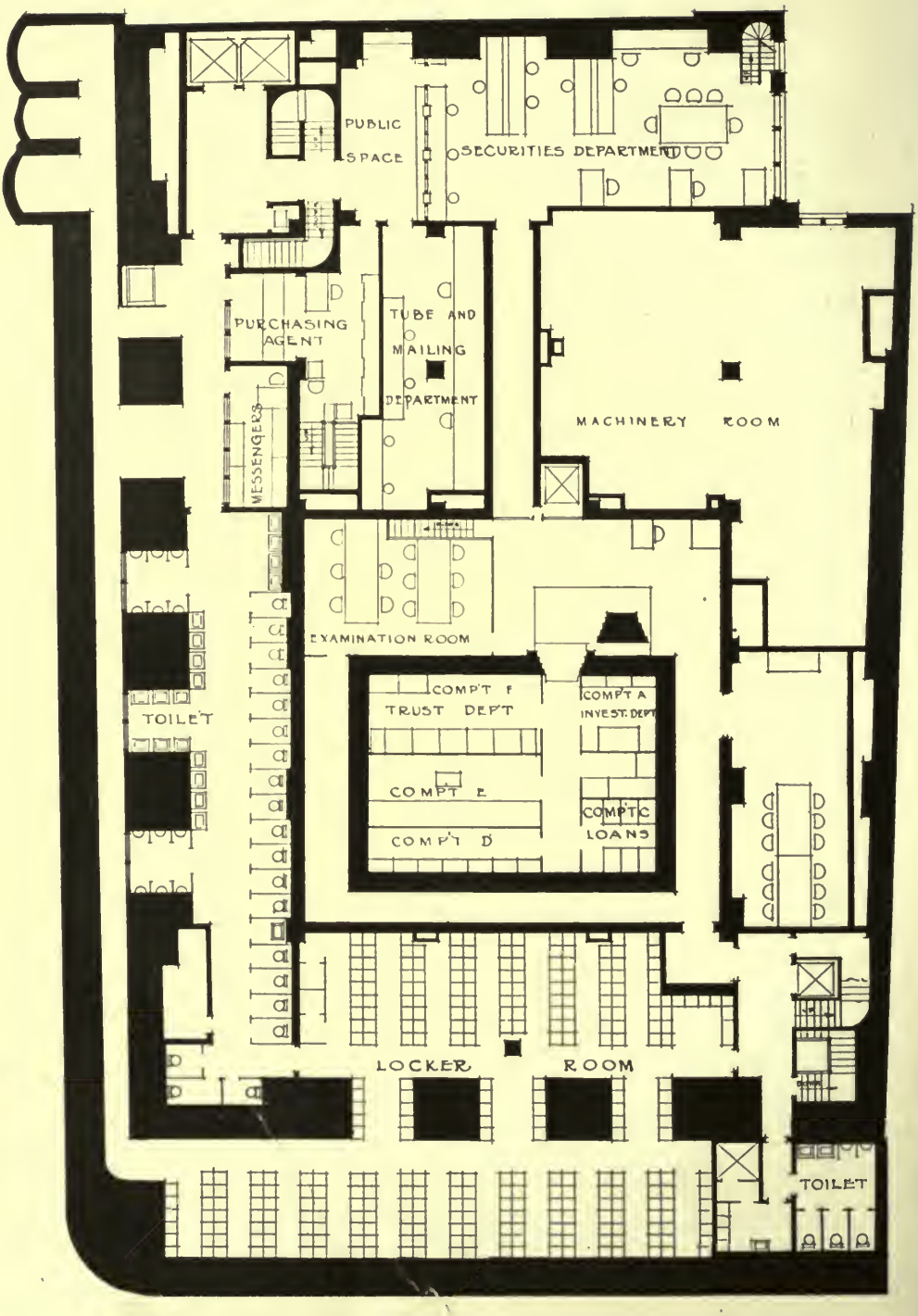
The rear portion of the central island, enclosed by a bronze screen, contains the working space for the money-handling departments that come in most direct contact with the public. Here are the paying and receiving tellers, as well as the collection and loan departments. The coin lift, situated near the center of the island, communicates with the vaults in the underground stories, rendering



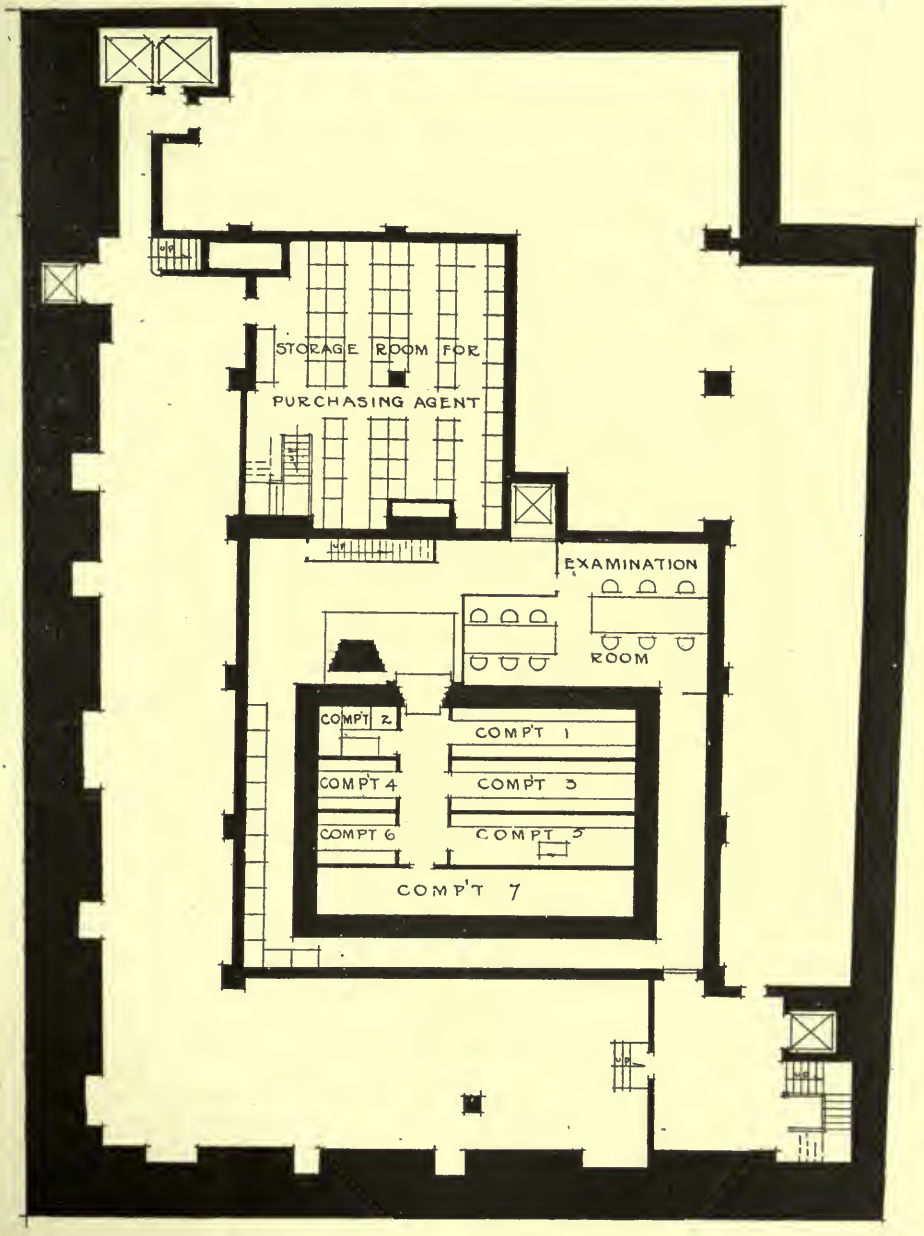

FIRST FLOOR PLAN—GUARANTY TRUST COMPANY, NEW YORK CITY. YORK & SAWYER, ARCHITECTS.




SECOND FLOOR PLAN—GUARANTY TRUST COMPANY, NEW YORK CITY. YORK & SAWYER, ARCHITECTS.




BASEMENT FLOOR PLAN—GUARANTY TRUST COMPANY, NEW YORK CITY. YORK & SAWYER, ARCHITECTS.




SUB-BASEMENT FLOOR PLAN—GUARANTY TRUST COMPANY, NEW YORK CITY. YORK & SAWYER, ARCHITECTS.



DETAIL OF BRONZE SCREEN—BANKING ROOM, GUARANTY TRUST CO., NEW YORK CITY.
York & Sawyer, Architects.

them easily accessible to all the services here grouped together. In the extreme rear of the floor, separated only by a balustrade from the public space, we find the bond department, portions of which, however, are enclosed for greater privacy by a light screen which scarcely counts in the general effect of the room.

In the height of the main banking room, though not visible from it, three mezzanine floors have been arranged. The lower two are unimportant, being contained entirely in the corner pylons, but the third is far more extensive, being continued around three sides of the main room. It contains space for files and archives, as well as a large office for stenographers, and is reached by two stairs and three elevators. This mezzanine is contained in the height of the entablature, the central part of the banking room having a full entablature, while the aisles are ceiled at a lower level, the difference being sufficient for a working story.

Below the main floor is a basement extending under the entire building, only a small part of which is accessible to the public. Here we find the securities department, in the extreme rear, and near it the purchasing agent, the messengers, and the Lamson tube and mailing department. The tube system is of great importance, as it joins widely separated portions of the building, and greatly facilitates intercommunication between the different departments.

The basement contains also locker rooms, machinery rooms, and the like, as well as the vault, whose principal means of access is the coin lift from the center of the main banking room. This vault has walls two feet thick, and is surrounded by an observation passage, from which all sides of the exterior are visible. Near its entrance is an examination room. The interior of the vault is divided into separate compartments for the different parts of the bank. The sub-basement contains a similar vault, also divided into compartments, each of which forms a smaller vault independent of the others.



BANKING HOUSE OF J. P. MORGAN & CO., NEW YORK CITY.
Trowbridge & Livingston, Architects.

In the upper stories the functions of the bank are continued. The second story contains board and conference rooms, arranged as a separate unit, and reached by the elevator next to the president's office. This floor also contains the coupon department, foreign department, and bookkeeping department, as well as some others of less importance, communicating with the public space, reached by the Liberty Street elevator. Adjacent to these is the auditing department, in a more secluded location, and served by the elevator on the vice-president's side.

The third story contains the title department, and the remaining floors are partly occupied by the bank, and partly destined for its future expansion, but meanwhile leased as offices. Among the services housed here are the bond department, telegraphs and telephones, kitchens and dining-rooms for the use of the staff, machinery, and a special printing office.

Throughout the equipment of the Guaranty Trust Company the same spirit of thoroughness is to be noticed. Nothing seems to be overlooked. The fixtures are planned with the greatest care, every department having such special fixtures as are necessary to its highest efficiency. That the basements are artificially ventilated goes without saying, but the use of this system in the main banking room is less evident, the openings to the ventilating ducts being hidden by the mouldings of the architrave above the columns. It is regrettable that the reduction necessary in making the plans available for magazine reproduction precludes the



BANKING ROOM—J. P. MORGAN & CO., NEW YORK CITY.
Trowbridge & Livingston, Architects.

showing of the details of the equipment, as these are scarcely less interesting than the general disposition of the layout.

Another recent work of unquestioned interest, in which Mr. Boyd collaborated, is the banking house of J. P. Morgan & Co., at the corner of Broad and Wall Streets. The problem here presented was very different, and, in some respects, simpler than those discussed above, because of the lesser number of banking functions to be taken into account. On the other hand, the architects, Messrs. Trowbridge and Livingston, found themselves confronted with a problem of some difficulty in view of the peculiar form of the plot, and of the desire to make the banking room as large as possible, without any intermediate supports. In fact, as executed, this room includes the entire area of the plot, except a small space at the rear, in which stairs, elevators, and the correspondence department are included, and a still smaller space at the front, with the entrance lobby. The irregular form of this large room has been disguised by a very ingenious treatment, all the more interesting because of the comparative rarity of such problems in our American work, and the small number of precedents to be found for them.

The entrance to the building is placed at the truncated angle of the two streets, a location all the more commendable because this corner, if not cut off, would have been unpleasantly acute. The bisector of the angle has been taken as the main axis of the decorative treatment. The location of a series of rooms along the sides of the lot, and the consideration of symmetry with reference to this axis, have produced a central space, hexagonal in plan, and capable of a symmetrical handling. This space is enclosed by a screen of pink Knoxville marble, with panels of openwork bronze grilles backed by glass, and columns of Skyros marble. Upon the screen is concentrated the richest ornament of the entire composition. It is enriched with elaborate carving, in the style of the Italian Renaissance, with a frieze, representing Greek and Ameri-



BANKING ROOM—J. P. MORGAN & CO., NEW YORK CITY.
Trowbridge & Livingston, Architects.

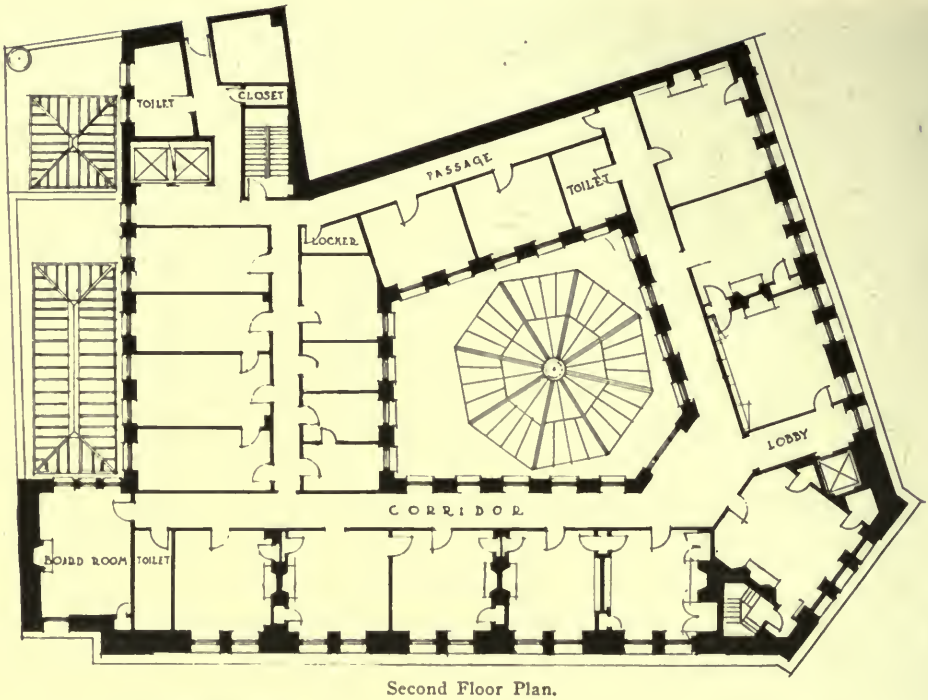
can Indian mythological subjects, by Mr. Charles Keck, one of the best known of the younger American sculptors.

The concentration of interest in this center is further emphasized by the great circular skylight almost directly above it. The rest of the ceiling is a repeating design of hexagonal coffers and circular roses, broken only by the large circular skylight and a smaller rectangular one in the rear. A further device to disguise the irregular outline of the walls is the omission of an order, its place being taken by a system of alternate wide and narrow mosaic panels, the latter decorated with trophies.

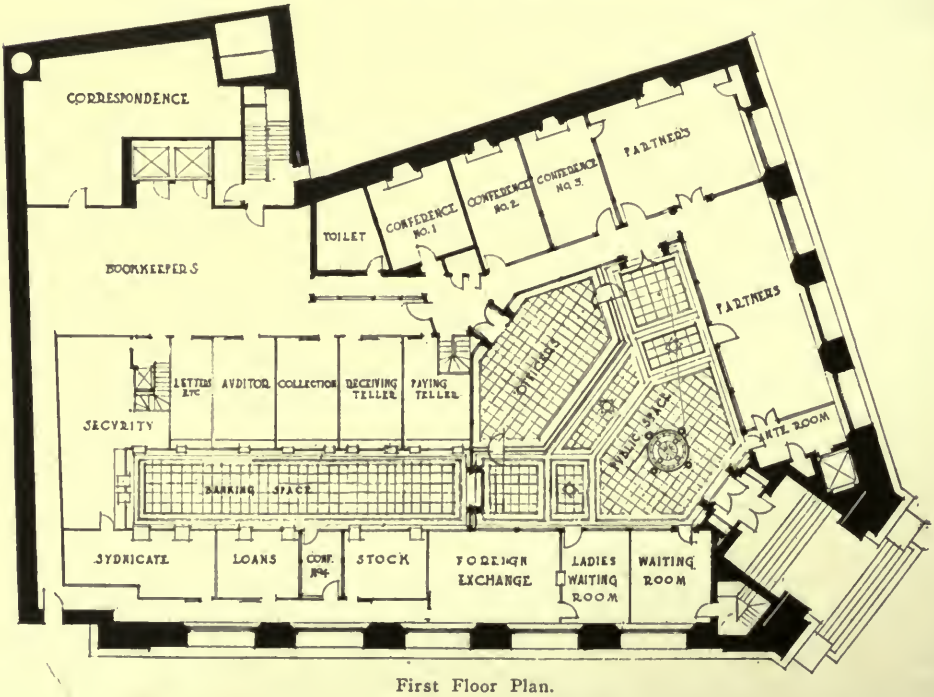
The space within the screen is partly occupied by an enclosure for the officers; the remainder is public space, with a mosaic pavement inspired from Florentine designs. Four large doors interrupt the screen, one of them being the main entrance to the building, and four smaller doors give access to the rooms on the street fronts.

The space on the right, as we enter, is devoted to offices for the partners, with a small ante-room and several conference rooms. On the left, beyond two small waiting-rooms and the foreign exchange department, one of the large doors gives access to the banking space. Around this are grouped the comparatively simple facilities for the handling of money, connected by stairs and an elevator with the basements containing the vaults and store-rooms, as well as the transfer department, which has a separate entrance from Broad Street, whose slope makes possible this access at two different levels. The space below ground contains also the usual heating and ventilating apparatus. The main vault is of the highest type of burglar-proof construction, the principles of its design being similar to those already discussed.

Above the main banking room, the second story contains the private offices of the partners and their secretaries, Mr. Morgan's office being directly above the




Second Floor Plan.




First Floor Plan.

BANKING HOUSE OF J. P. MORGAN & CO., NEW YORK CITY. TROWBRIDGE & LIVINGSTON, ARCHITECTS.



MR. MORGAN'S PRIVATE OFFICE—BANKING HOUSE OF J. P. MORGAN & CO.
Trowbridge & Livingston, Architects.

main entrance to the building. This construction, with no interior columns to support it from below, gave rise to a most complicated engineering problem, capable of solution only by the use of modern methods of steel construction. The third and fourth floors, not visible from the street, contain dining-rooms, janitor's quarters, and other minor divisions, as well as a roof-garden at the fourth floor level, facing the Stock Exchange. The private offices are panelled in oak, the designs being varied according to the taste of their occupants. They are accessible by an elevator from the anteroom to the right of the entrance, that of Mr. Morgan having also a private staircase from the waiting-room on the left. The stairs and elevator in the rear give additional access to these offices, as well as to those of the different secretaries.

The exterior of the building is simple in the extreme. There are no columns, and scarcely any carving, excepting on the mouldings of the cornices and the mullions between the second-story windows. The elaborate bronze screen at the entrance is the only suggestion of the rich interior that appears on the rather unassuming façade, whose whole character seems intended to produce an atmosphere of serene reticence, contrasting vividly with its florid and pretentious environment, even as the modest altitude of the building differentiates it from the surrounding skyscrapers.



LOGGIA, WOMEN'S GYMNASIUM—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



VIEW OF SWIMMING POOL COURT AND PLAYGROUNDS—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL.
Hewitt & Emerson, Architects.

# The JOHN C PROCTOR RECREATION CENTER, PEORIA, ILLINOIS

## HEWITT & EMERSON ARCHITECTS

THE will of the late John C. Proctor, a life-long resident of Peoria, devoted his entire estate, excluding a few personal bequests, as a public charity to be known as the John C. Proctor Endowment. A board of seven trustees was named whose duty it is to care for the funds and property, to administer the charities established during his life, and to provide, so far as the income of the endowment permits, such other aids to the welfare of the people of the city of Peoria as may suggest themselves.

Acting on the provisions of the will, the trustees projected and established the John C. Proctor Recreation Center, located in the midst of a great residential district occupied largely by people of the laboring class.

The aim of the trustees was to provide an institution with every facility for furthering the physical, social and moral welfare of the community. Men, women, boys and girls are provided for, properly segregated.

The ground, 258 feet by 700, bounded by city streets on four sides, was purchased before the scope of the Center had been fully determined. As the problem developed, it was found that the ground, originally thought ample, was too small. This necessitated some restrictions in planning and some arrangements which might otherwise have been avoided, such as the placing of the tennis courts on the street front of the field house.

The problem required the planning of an institution, the best examples of which were probably to be found in the later Centers built by the South Park Commission in Chicago. Either the committee or the architects visited most of the more complete and recent institutions of the kind in this country; but the general scheme adopted was not modelled on any

precedent, owing to differing conditions. The difference in scale, the fact that the scope was to be wider than that of any example found, and the shape and size of the ground, required original treatment. The Peoria institution is considerably smaller than the Chicago institutions, but covers a wider scope than any of them, in that it includes bowling and billiards.

As finally developed, the problem included the fulfilling of the following requirements:

Grounds—Provision for separate playgrounds for (1) small children, (2) girls and women, (3) boys and men; to be sufficiently separated from one another to prevent interference and allow proper supervision. The outdoor playgrounds were to be as complete and spacious as the ground permitted, and equipped with provision for the games, play and gymnastic apparatus adapted to each group. The grounds were to be provided with toilets for both sexes and convenient drinking fountains. Shelters, in the form of loggias connected with the field house and also in the form of separate structures, were to be included.

Building — Provision for individual baths for both sexes; gymnasiums, locker rooms, toilets and showers for both sexes; a large swimming-pool, with its dressing rooms and appurtenances. This feature was originally intended to be housed for use the year round. On investigation, it was found that experience in similar Centers elsewhere showed that a pool was not used enough in cold weather to justify the considerable extra cost for housing, heating and maintenance. An auditorium, with stage large enough for amateur theatricals, dressing rooms, coat rooms, and the like, was to be used both for audiences and for social affairs and dances. A library and reading room, and club rooms, with kitchen, bowling alleys, billiard and pool rooms were additional features.

In addition, the building must contain a rotunda and office, private offices for the director and his assistant; a laundry, a boiler room, space for ventilating apparatus, store rooms, custodian's room



ALLEN STREET ENTRANCE—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL.
Hewitt & Emerson, Architects.



ALLEN STREET FRONT—JOHN C. PROCTOR RECREATION CENTER.
Hewitt & Emerson, Architects.

and offices for the physical directors, male and female, and apparatus rooms in connection with the gymnasiums.

The problem of planning the building was, briefly, to separate the departments used exclusively by either sex; to place the principal departments used by both sexes so as to be available from both the male and female sides of the building; to segregate the boys from the men and the girls from the women as regards toilets and locker rooms; to provide ample circulation and co-ordinate the various parts; to so mask the boiler room as to make it inconspicuous; and, finally, to provide the maximum of supervision with the minimum number of attendants.

All departments, whether for man, woman, boy or girl, are reached directly from the rotunda and office. The boys' and girls' locker and toilet rooms are in the basement and are reached by special stairway on either side respectively. The gymnasium floors are directly on the ground, about midway between the basement and first-floor levels. This places the gymnasiums and exits to the swimming-pool and playgrounds in proper relation thereto, and facilitates the relation of the boys' and girls' locker rooms with the circulation corridors and gymnasiums.

The swimming-pool approaches are so arranged that entrance to the enclosure is at one end only, directly in front of the shower baths, use of which is required before entering the pool. The ends of the circulation corridors act as waiting places when the crowds in hot weather exceed the capacity of the pool. The windows allow those waiting to witness the sport they are soon to enjoy.

Among the minor problems were the construction of the pool, containing about 150,000 gallons of water, the plumbing, heating, lighting, ventilating and sanitary arrangements; all of which were successfully handled by the architects. The water in the pool is heated throughout the season to take off the chill. The pool can be emptied, cleaned, refilled and heated in twelve hours.

The building is of fireproof construction, except the roof. The exterior is faced with a gray mat brick in two shades, laid in double Flemish bond, a light shade double stretcher and a single stretcher of the darker shade alternating.



ALLEN STREET FRONT—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



WOMEN'S WING—JOHN C. PROCTOR
RECREATION CENTER, PEORIA, ILL.
HEWITT & EMERSON, ARCHITECTS.



ROTUNDA—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.

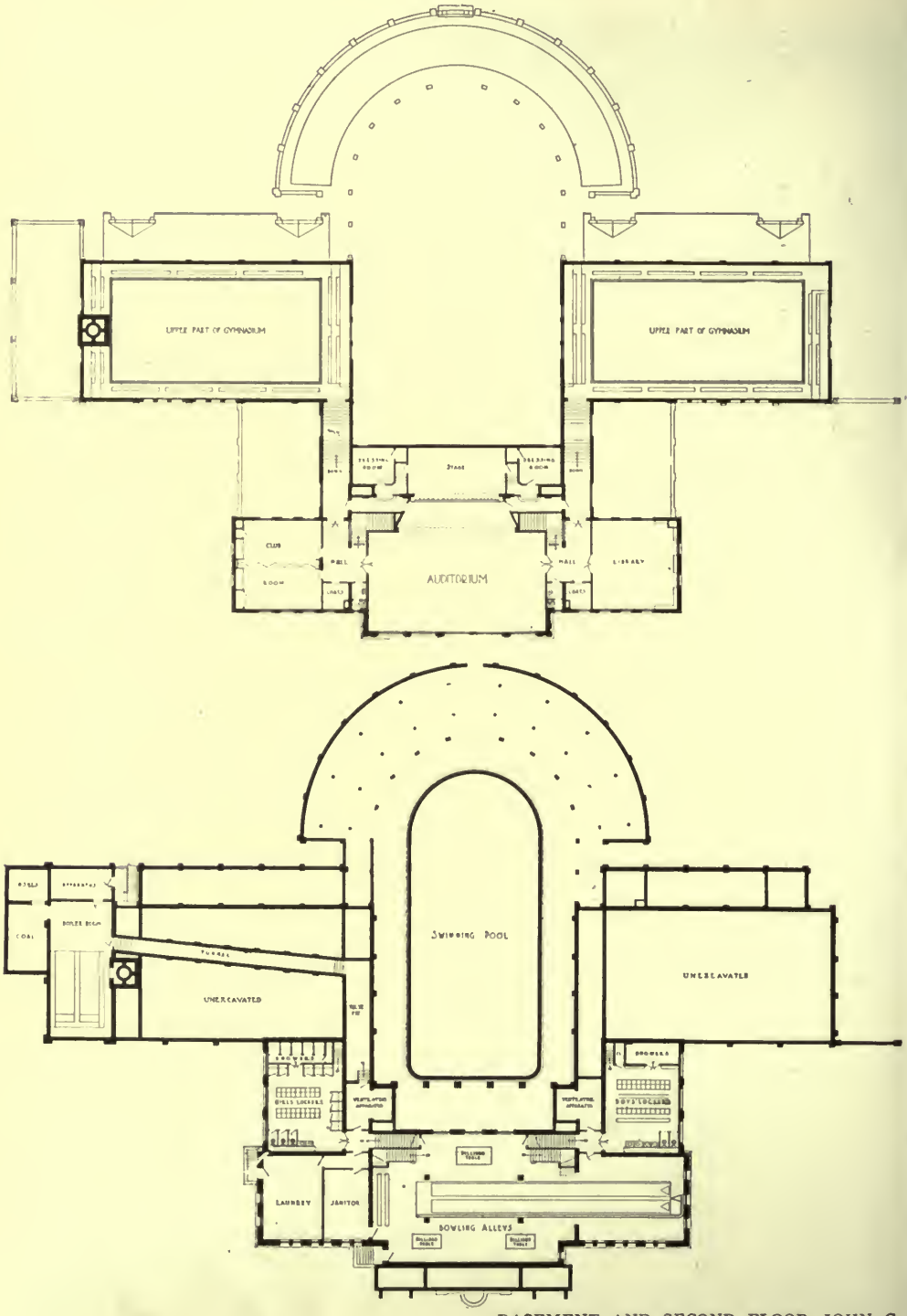


AUDITORIUM — JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.


BOYS' PLAYGROUND
RUNNING TRACK
BASE BALL DIAMOND
SAND COURT
WADING POOL
SMALL CHILDRENS' PLAYGROUND
GIRLS' PLAYGROUND
LOGGIA
LOGGIA
SWIMMING POOL
TENNIS COURT

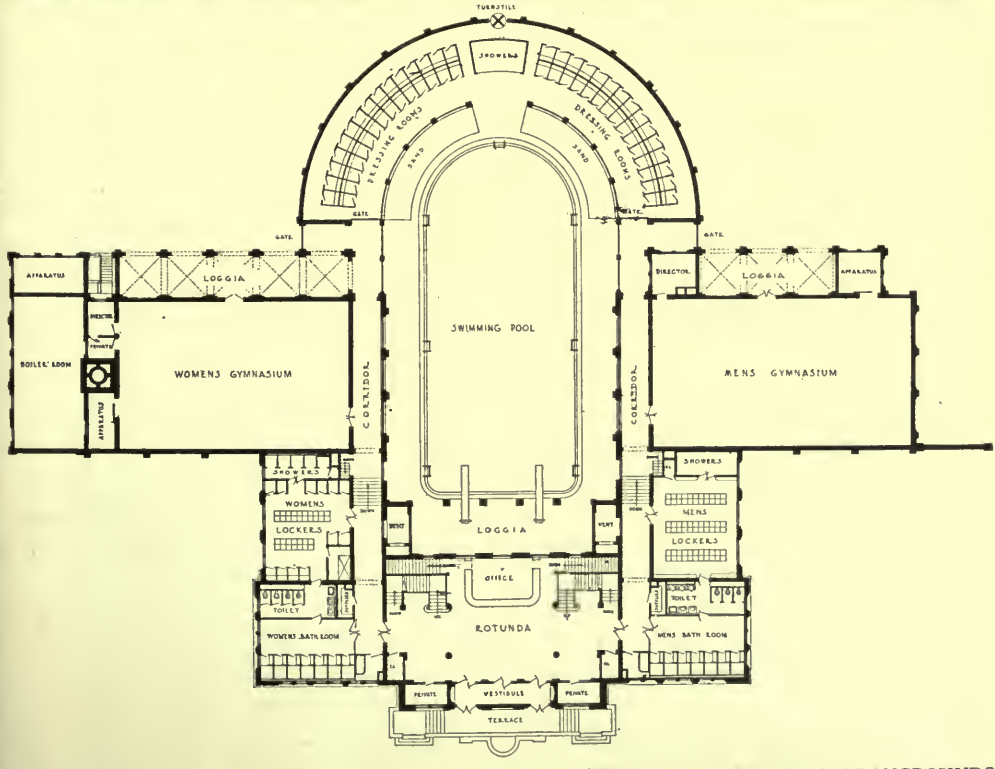


SWIMMING POOL LOGGIA—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.




BASEMENT AND SECOND FLOOR—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.






GENERAL VIEW FROM PLAYGROUNDS AND PLAN OF FIRST FLOOR—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



MEN'S GYMNASIUM—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



SWIMMING POOL COURT—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL. HEWITT & EMERSON, ARCHITECTS.



LOGGIA, WOMEN'S GYMNASIUM—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL.
Hewitt & Emerson, Architects.



SWIMMING POOL COURT—JOHN C. PROCTOR RECREATION CENTER, PEORIA, ILL.
Hewitt & Emerson, Architects.

The joints are five-eighths inch flush joints of natural color cement mortar, left with rough texture. Certain trimmings, such as arches, pilasters, and the like are entirely of the darker shade brick with horizontal joints deeply raked out. The stone is buff Indiana limestone. The roof covering is of red interlocking shingle tile.

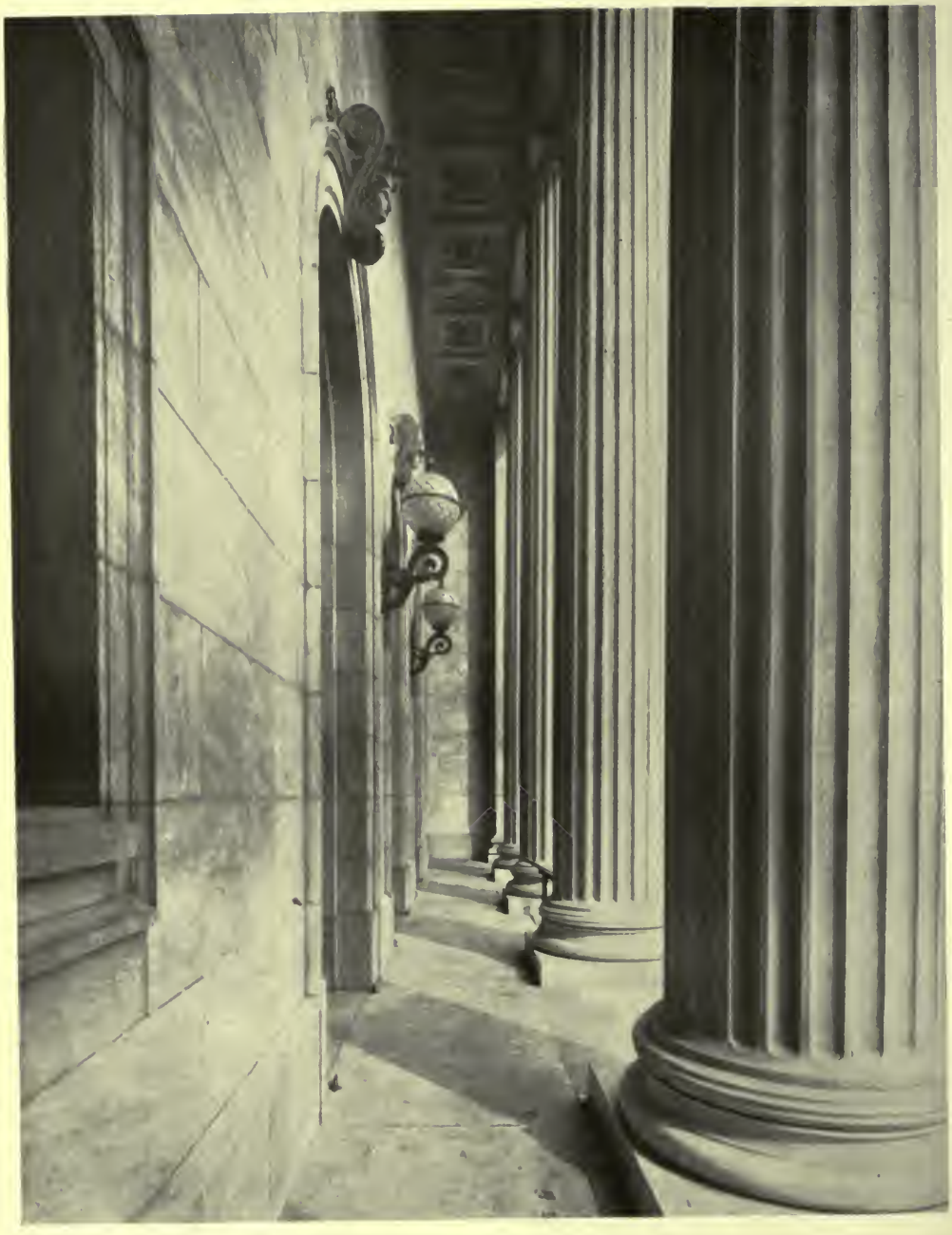
On the interior the architects were given practically *carte blanche* to use materials best fitted for the various purposes. Terrazzo and marble are used for floors, except rooms requiring finished oak or maple floors. All bath, toilet and locker rooms are of gray Tennessee marble and white enamelled brick with cove angles. The swimming-pool is lined with white tile, with sanitary overflow rim in white glazed terra cotta. All exposed metal in bath and toilet rooms has been reduced to a minimum and is of white metal.

The two things kept uppermost in the minds of the architects in designing interior details of the building were to use the most fitting and durable materials in the simplest and most cleanable forms and to make everything, so far as possible, "boy-proof." All pipes, tanks and valves in toilets and bathrooms are concealed in pipe corridors. All fastenings and removable parts are so far as possible concealed, and all construction is of the staunchest.

Hot, cold and circulation water supplies for building and grounds are controlled from the valve pit, convenient of access by the engineer by means of a tunnel from the boiler room. This tunnel also contains heating mains, water service and other pipes.

The entire grounds are lighted, for night use, by means of tungsten clusters and outlets on the semi-circular wall around the swimming-pool enclosure and on the brick posts of the iron fence enclosing the grounds.





DETAIL OF COLONNADE—MONTREAL ART GALLERY E. AND W. S. MAXWELL, ARCHITECTS.



TYPICAL GALLERY SEAT—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.

# The MONTREAL ART GALLERY
## E. & W. S. MAXWELL, ARCHITECTS

BY THOMAS W. LUDLOW

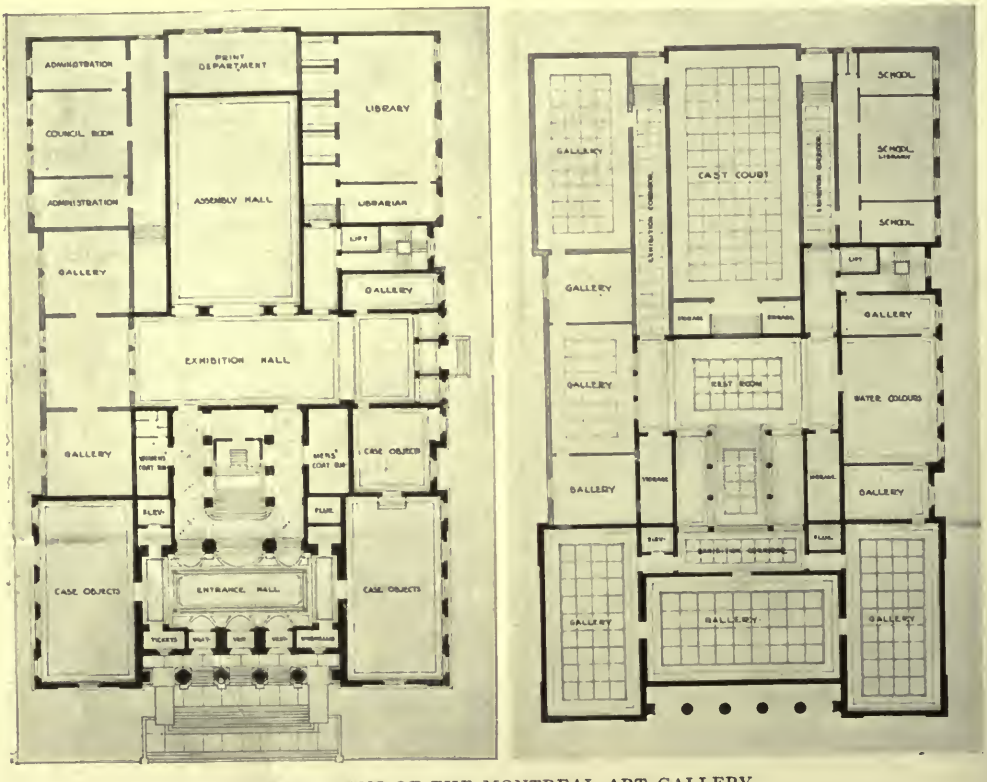
THE present building for the Art Association of Montreal had its inception about four years ago, when the Council for the Association decided to hold a limited competition for the selection of plans for a new gallery. Three of the leading local architectural firms were asked to submit schemes on conditions drawn up by the late Mr. Edmund M. Wheelwright, who was selected as assessor on account of his experience with the Boston Museum of Fine Arts, and the valuable data collected by him in this connection was placed at the disposal of the competitors. Messrs. E. and W. S. Maxwell were adjudged the winners in the competition and the erection of the gallery was intrusted to them.

The site of the new structure on Sherbrooke Street, flanked for half a mile or more on either side with great houses in large terrace gardens, was an ideal one for the style selected—Neo-Classic—although there was some criticism at the time the competition was awarded that the severely classical design chosen reflected the modern French school rather than the purely British spirit of the other designs.

The building is composed on its main front of a central colonnade of the Ionic order, forming a portico flanked by two slightly projecting wings which frankly express the internal disposition of the exhibition halls—a lateral one over the entrance, having on either hand smaller galleries at right angles to it. The side elevation on Ontario Avenue, incomplete at the moment, will consist of a composition in three parts—a central feature and two side pavilions joined to the central mass by connecting links. The completed portions of the main and side façades



MAIN FACADE ON SHERBROOKE STREET—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.




FLOOR PLANS OF THE MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.

are built of blue-white marble from Vermont; and the base course, entrance steps, and coping enclosing the low grass terrace surrounding the building are of gray granite, which almost matches in color and completely harmonizes with the marble above.



DETAIL OF MAIN FRONT—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.

The main entrance is approached by a broad flight of steps enclosed between pedestals leading up to the colonnade, behind which are three arched entrance doors. Above these the wall is left plain, except for a delicately carved Greek fret frieze placed directly under the ceiling of the pteroma, to emphasize the top-lighted galleries on the main floor. The ceiling of the pteroma is deeply coffered in the rich traditional manner. The columns themselves are beautifully cut monoliths, considering they are over thirty-one feet in height.

The doorways are treated in the straightforward Italian manner with a continuous undecorated architrave and have no elaboration, excepting the richly carved key-blocks that project too far



DETAIL OF PAVILION WINDOW—MONTREAL ART GALLERY.

and in consequence have the appearance of applied rather than structural ornament.

The flanking pavilions are treated in the same direct manner as the central portion, only here the windows lighting the lower galleries are framed in by a nicely proportioned slightly recessed panel. The windows are of the simple console or bracket type without chambranles. Above the openings are placed sculptured plaques, approximately three and one-half feet high by ten feet long, filling out the panels. These plaques are carved in white marble in low relief and represent the spirit and traditions of Classic art.

The side elevation presents a very interesting and practical adaptation of U-Bar greenhouse construction over the studios of the Art School. In employing this method of lighting, the architects have successfully overcome one of the greatest difficulties of using skylights in this northern climate—the joint on the inclined surface that will keep tight under the varying and trying conditions of snow and ice which have to be reckoned with for at least five months each year.

Below the Art School are a series of side-lighted exhibition rooms, which are adequately expressed on the exterior by a row of square-headed windows over the side entrance. Although these look amply large from the outside, the natural illumination within these rooms is not as good as one would suppose from the size of the openings.

The only decorative feature on the lateral front is the well proportioned and delicately treated doorway, that is nicely combined with the flanking windows into a distinctive feature by means of a cornice and pilasters.

The chief features on the ground floor are the almost extravagantly commodious entrance and stairhalls on both the Sherbrooke Street and Ontario Avenue



MAIN ENTRANCE DOOR—MONTREAL ART GALLERY.




DETAIL OF BRONZE GRILLE OVER ENTRANCE DOORS—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.

fronts, an exhibition hall for casts, a lecture hall and three rooms for showing case objects, two of which, those on the right of the main entrance, are being used until the completion of the building as a library and council room, and secretary's office, respectively.

The main entrance hall, which is sixty-two feet long by twenty-four and one-half feet wide, is reached through three small vestibules. It is a well proportioned room, covered with an elliptical plaster barrel vault with penetrations. The walls and piers of this hall are of Botticino marble. This great hall depends entirely for effect upon its proportions and upon the color of the marble, and the only decoration used, a molded band of flowers and fruit forming a panel in the plaster vault, seems a trifle heavy for the architecture below, and is decidedly out of scale with the delicately designed and beautifully carved marble and alabaster lamp standards which at the same time illuminate and are the only furnishings in this part of the building. The main stairs are reached by ascending a few steps from the entrance hall and crossing a narrow circulation passage. These stairs, as well as all of the architecture surrounding them, are of Botticino marble treated in the most severe manner, without moldings. Here, as in the entrance hall, the ceilings of the passages surrounding the stair well are vaulted in plaster, only in this case they are divided into square bays covered with groined vaults, excepting the compartment immediately in front of the stairs, which on account of its greater width is covered with a flat panel. This latter treatment, that is, the increased width of the central bay, seems to have caused the architects trouble on both sides of the archway, as on the hall side the flatter penetration gives unequal warped surfaces. On the stair side a very flat oblong groined vault would certainly have been more pleasing than the flat ceiling and might have sug-



ONTARIO AVENUE FRONT—MONTREAL ART GALLERY.

gested another method of artificial lighting than the rather awkward appearance of the bowl, like those used in side passages, but hung in this case without the chains.

To the right and left of the entrance hall are two lateral galleries treated in a direct and sensible manner without ornamentation. The lighting in these rooms, both natural and artificial, is exceedingly well disposed, and the walls are covered with a neutral gray burlap, which at the same time affords an excellent background and is exceedingly restful to the eyes. The gallery to the right, temporarily used as the library, is shown on page 147.

The council room, reached from the library by going up a few steps, is treated and decorated in a similar manner to the adjoining room, only here the electric fixtures are hung from the underside of the beams instead of from the panels, a wrong use æsthetically for structural forms even though one knows that in present-day construction there is ample room for the conduits inside of the false beam shell.

The Ontario Avenue entrance is intended for the use of the art students and the administration. It opens into an ample vestibule which gives direct communication to the offices, stairs to the studios, and the transverse sculpture gallery.

Besides the various rooms mentioned or described, ample provision is made on the ground floor for coat rooms, ticket offices, shafts for both passenger and freight elevators and other accessories, skillfully arranged in inconspicuous places, but accessible from the point of administration.

The main stairs from the ground to the chief exhibition floor lead from the entrance hall in straight easy runs with ample landings into a spacious top-lighted gallery. Generous as this space is, sixty-six feet long by twenty-nine and one-half feet wide, the proportions and handling of the stairs are so fine that one is met on ascending with a sense of disappointment to find them blocked, so to speak, by a wall instead of a vista of galleries or, at least, some striking architectural feature on the axis.

The stairwell is flanked on either side by exhibition passages twelve feet wide, which give access to the main gallery. On the well side of these passages there are Doric colonnades of Botticino marble that support the superstructure of the roof. The capitals and bases of these columns are of bronze, as is also the handrail between them. The walls on the opposite side of the passages are unbroken for exhibition purposes, the colonnade being recalled at the corners only by pilasters.

The main gallery over the entrance hall and vestibule and the flanking side galleries are rooms of considerable size, being sixty-three feet long by thirty-three feet wide and sixty and one-half feet long by thirty-one feet wide, respectively. These rooms are top-lighted, the skylights filling the whole of the ceiling, except for a deep coved cornice.



DETAIL OF ENTRANCE ON ONTARIO AVENUE—MONTREAL ART GALLERY. E. AND W. S. MAXWELL, ARCHITECTS.



MARBLE AND ALABASTER LAMP STANDARDS—MONTREAL ART GALLERY. E. AND W. S. MAXWELL, ARCHITECTS.



ENTRANCE HALL ON SHERBROOKE STREET FRONT—
MONTREAL ART GALLERY.



FOOT OF MAIN STAIRS, TOWARDS ENTRANCE HALL—
MONTREAL ART GALLERY.



DOORWAY TO EXHIBITION GALLERIES—MONTREAL ART GALLERY. E. AND W. S. MAXWELL, ARCHITECTS.



PASSAGE AND COLONNADE FLANKING MAIN STAIR WELL—MONTREAL ART GALLERY. E. AND W. S. MAXWELL, ARCHITECTS.



MAIN EXHIBITION GALLERY—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.



TYPICAL EXHIBITION GALLERY—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.



MAIN STAIRS—MONTREAL ART GALLERY.
E. AND W. S. MAXWELL, ARCHITECTS.

This arrangement has two advantages; first, the glass area is sufficient to give excellent lighting to the pictures and, secondly, it leaves large uninterrupted wall spaces, which are so important in a structure of this kind.

There is no pretense of any architectural treatment in the galleries themselves; the only decorative notes are the brocades, old rose or light green, which are hung on the walls, and the door trim, which is treated like a great picture frame. The colored brocade wall coverings above mentioned were put on at the instigation of the building committee with the idea of imparting a home-like appearance to the galleries and has always proven a disappointment, because the pattern and the color of the material detract from the pictures, and in a gallery where the pictures are constantly changed, the permanent collection being taken down several times a year to make room for special exhibitions, the walls have become patchy from uneven fading. This, however, is soon to be obviated, as a neutral tinted burlap is to replace the brocade as a wall covering.



BRONZE NEWEL AND HANDRAIL—MONTREAL ART GALLERY.

Continuing the circuit, there are three side-lighted galleries on the Ontario Avenue front of the building. These rooms, on account of the Art School above them, are considerably lower than the main galleries. They are also less satisfactory from a point of view of illumination, the ceilings not being high enough to admit sufficient natural light for the depth of the rooms, and the artificial light, besides being insufficient as to volume, is poorly placed, the alabaster bowl being hung from the underside of the beams; and the light supposed to be reflected by the ceiling, from the design of the fixtures, is broken up and lost almost entirely by the sides of the beams.

The Art School on the top floor is splendidly arranged, both as to light and convenience, and consists of three large top-lighted studios, two for cast drawing and one for life work, with the necessary toilet accommodations for men and women students, storage space, and the like. The walls in this portion of the building are all covered with neutral tinted burlap, which affords the best possible background for all objects of art.

The major part of the basement is devoted to the apparatus for heating, ventilating, and vacuum cleaning; the rest of the space is devoted to a large modeling room in connection with the Art School, a lunch room for the students, ample janitor's quarters, public lavatories and storage.

Particular attention should be paid to the finely designed and beautifully executed bronze work used where occasion demands in the different parts of the building. The grilles over the entrance doors typify the arts by means of a small figure supported by acanthus scrolls; the grilles themselves are of an open design, in order that light may penetrate the vestibules and entrance hall when the doors below them are closed. The newels and hand-rail of the main stairs are a splendid combination of wrought and cast forms in bronze; the designs have a distinctly metal character and are well proportioned to the space which they have to fill.



COUNCIL ROOM—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.



LIBRARY ON GROUND FLOOR—MONTREAL ART GALLERY.
E. and W. S. Maxwell, Architects.

The furniture, also designed by the architects, shows a simplicity and dignity that make it harmonize with the architecture about it. The table in the gallery at the head of the main stairs is a rich and pleasing Renaissance design; the gallery seat shown on page 133 is severe in its straight classical lines that are relieved from monotony by charming bits of decorations on the supporting standards and back. The furniture throughout is of oak with a natural flat oil finish to match the architraves, doors and the little other woodwork found in the building.

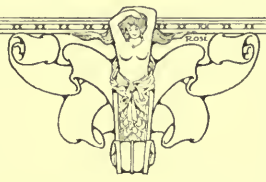
In conclusion, the Montreal Art Gallery is a carefully designed, well thought out, and finely executed piece of work, which, notwithstanding the criticisms in the preceding paragraphs, is a worthy monument and one that should serve as an inspiration to those who study it.



DETAIL OF BRONZE HANDRAIL—MONTREAL ART GALLERY
E. and W. S. Maxwell, Architects.

# THE ARCHITECT'S PART IN THE WORLD'S WORK

## AN ADDRESS BY FREDERICK · L · ACKERMAN



IN giving this talk before the students and the faculty of the College of Architecture of Cornell University, I had in mind to awaken in the students an interest in a phase of our work which is given but scant consideration in our schools—to open for discussion the need of a material revision of school curricula in harmony with the efforts of the American Institute of Architects, the Beaux-Arts Society, and similar bodies, for the furtherance of educational facilities both within our schools and during the years immediately following graduation. The question is this: Are we devoting any serious effort in the direction of showing students clearly the need of a greater degree of co-ordinated effort with civic, State and national bodies whose aims are directed toward developing a better physical condition within our communities? What are we doing to instill in their minds the idea that it is through voluntary and unremunerative service on the part of the architect that we can approach, within a reasonable degree of attainment, our ideals, both aesthetic and utilitarian? Do we in any way prepare them for this service which is of right demanded of them by the communities when they enter upon their life work and accept the responsibilities of citizenship? Do we open their eyes to the fact that it is alone through this voluntary service, the giving of time and energy to community problems, that we can provide the conditions through which there may be developed a vital, indigenous architecture, expressive of democracy?

These questions are not the result of speculation but, instead, have been suggested by talks with students and recent graduates of our schools, in which it was made clear that they did not understand or even hold the vaguest conception concerning the relation of their work to the problems of the community at large.

### AFTER GRADUATION.

After leaving the school the draughtsman passes through an apprenticeship of some years of office practice. During this period his horizon is limited in most cases by the office in which he works; he rarely comes into close personal contact with the clients; he is not interested personally in the community problems, because we have developed in him an attitude of self-complacency. He is not made aware of the efforts of our own professional bodies toward developing and maintaining higher ethical standards in the profession and toward the improvement of community conditions related to our work. He is left unconscious of this through lack of effort on our part to better acquaint him with the nature of the problems and the methods of solving them. We do little to stimulate in him a desire to aid in the solution of these problems, and still less to awaken in him a greater appreciation of his responsibility toward the community in which he lives.

We do little, indeed, to instruct him in the complicated processes by which we translate, through the efforts of our societies, our ideals into actual conditions. We do still less toward showing him the methods through which our ideals and the vague aspirations of our people can be translated into laws and ordinances providing the conditions which will permit us to express, in terms of steel and stone, a vital, living architecture of our own time and country.

I have not been so long away from the school that it is at all difficult for me to recall distinctly the ideas and the ambitions which I possessed when I was a student like yourselves. The times have changed somewhat during the intervening period of years, but the change has not been so great as to warrant me in assuming that you now possess a different set of ideas or entertain other ambitions.

THE DIFFERENCE BETWEEN PRESENT AND PAST CONDITIONS.

The scope of your work has broadened; the efficiency of those directing your work has greatly increased; and your powers, therefore, I assume are greater. My case is somewhat different. A number of years ago I left this school with its traditions and went out into the world of practice, and with me I took a certain definite idealism, such as you possess today. I have seen that change from year to year in contact with the world as opportunities for service were opened to me; I have seen that idealism grow, and I now bring the result to you.

Today I shall not talk at any length about the past, and I shall use the present only as an example. The future with its infinite possibilities, your opportunities, and the part you should play in the world's work, is the subject of my talk.

WHAT DOES ARCHITECTURE MEAN?

I shall throughout use the term "architecture" in a broad sense and I want you to conceive that term as embracing and including all that is generally associated with the term "art" as applied to painting and sculpture. In truth, the two latter elements are but parts when we conceive architecture as the physical expression of a civilization.

I shall not attempt to define the term "architecture" nor the term "art." Definitions are but relative. I want you to think of architecture in a much broader sense than is our custom. Consider the term, eliminating entirely from your mind the ideas so generally associated with the words "art and beauty." Think of architecture as an expression of conditions, the resultant of complex forces. Architecture may be a beautiful or it may be an ugly expression. Whether or not the term "art" presupposes an element of beauty contained, matters little. We surely all recognize the fact that "architecture" is sometimes inexpressibly ugly.

I am not going to consider with you or discuss the relative beauty of different architectural expressions of the day; that enters into your day's work. I shall not consider with you the adaptability of certain styles of architecture to present conditions; that is an academic question. I shall not attempt to compare what we are doing today with the effort of the past; that again concerns the work of the school. As I have said, my topic concerns the future, and it shall be my endeavor to awaken in you a broader conception of the great problems before you than I possessed when I left the school.

HOW SHALL WE ATTAIN OUR IDEALS?

My purpose is not to change the nature of your idealism; my object is to point out to you the absolute necessity for your performing certain acts and sharing individually certain responsibilities which I shall discuss with you, for it is through such acts alone that you will be able to turn your idealism, a shadow form itself, into definite realities.

We have not lacked, nor do we now lack, idealism. That we have been utterly impotent to create beautiful or even utilitarian cities does not prove that our idealism is at fault. I suggest, however, that we do not individually, or as a body, understand the nature of the processes necessary to a fruition of our ideals. We must stoop to conquer.



What is the relation of the architect to his ideals, to his own work, and to the age in which he lives? What are the

methods whereby he may be able to interpret the age in which he lives and to mould it, and, in turn, express not only what is best in himself but the best that is in his age as well? Upon this latter phase of his work I wish to lay particular emphasis, for it will become in later years, if you are serious in your endeavor, the subject of your greater interest. It is my wish to make it the subject of your most serious consideration now.

We are all too apt to think only of the problem at hand. We look forward to that time when we shall be given important commissions to execute and our assumption is that we shall then proceed to execute them, depending upon our own individual ability and our imagination to find the proper solution. We have not fully awakened to the reality, to the fact that in many phases of our work the surrounding conditions are such that a good solution of the problem is utterly impossible.

There are certain structures, such as isolated buildings, country houses and the like, in which this thought does not apply; but in the vast majority of cases there are conditions which prohibit the working out of our ideals. In the problem of the country house, if the needs be well defined, if the program of requirements be reasonable, it becomes a matter of individual effort on our part; and the result is a measure of our ability to design, to influence the client in the right direction, and to exercise that all-important quality—executive ability. If, however, the problem be of another class, viz., any of the structures found in our cities or the plan and arrangement of the cities themselves, we find that we are confronted with quite a different question. There are on every hand unnatural conditions which hamper and restrict us. We are brought face to face with that accumulation of conditions which is but the product of badly-governed municipalities.



These accumulated conditions of the past, wrought into precedent, habits, laws and ordinances, are just as much a part of your program when you have to design a structure within our cities as are the physical and aesthetic requirements imposed by the owner. If these attending conditions are unfortunate, if the laws and ordinances governing building be not logical and reasonable, if all of these be the result of makeshift and temporary methods, we remain impotent to create the ideals toward which we have directed our study for many years.

THE TANGLE LEFT US BY THE PAST.

What is our relation to these attending conditions, to our practice and to the conditions themselves? I shall confine myself almost entirely to the municipal problem, for it is in the cities that most of us must live and labor because of the nature of our calling.

Let me quote a paragraph from Walter Weyl's "The New Democracy." In the chapter wherein he traces the growth of the many interests which have brought about the present political, social, economic and moral conditions he says: "Like the continent, the city has been scarred by the same waste and pre-emption, and the same insensate optimism, the same utter lack of prevision. Cities destined to be the homes of multitudes have grown up with the abandon of petty villages. Streets have been made narrow; parks have been forgotten; houses had been built upon the theory of packing-boxes; drainage, water supply, fire protection—everything had been left to chance and the play of the instinct for gain. The theory of the American city was that of the pioneer's camp. People were there for business. Their living conditions must work out themselves." This is a fair and a just statement of the conditions surrounding our work in the cities of America today.

These are the conditions which will confront you upon entering the field of practice. They will stand as a Chinese wall about your idealism and imagination.

Let us pause and take stock, as it were, of these unfortunate conditions. Out of such an analysis we may find the key to this exceedingly difficult problem. It is our problem first to understand clearly the aims and activities of the general public of which we are a part; we must also understand the complex social, political and economic structure of our civilization, municipal, State and national, if we are to be a factor in finding the remedy. Moreover, it is the duty of the architect to know these things, for it is his task to mould and unite these exceedingly diverse elements into a simple unit. He must lead through greater knowledge than that of his fellow man: at the same time he must follow. He must be able to analyze the individual: must be able also to analyze the powerful undercurrents of his time before he can either express the civilization in which he lives or express even himself.

THE ONLY SOURCE OF ART.

Any art must be an unconscious expression of its cause; a great art can only be produced through strong, positive forces demanding that art. To say that an art is bad is saying that art does not exist at a given time and place; and it is likewise true that a vast amount of artistic activity, so-called, may go on, producing nothing, simply because there may be no demand for that particular form of expression at that particular time. Genius is not individual, but it is an individual expression of what time has accumulated in the minds of men; and there has never existed a genius both out of time and place. Beware of those who would walk only in the paths of the past as well as of those who would work ages ahead of their time.

Returning to the statement quoted, this is the sort of expression that comes with an awakening, and we already see in every branch of governmental activity the acceptance of a broader policy. As yet, however, we have achieved comparatively little, and particularly is this true in all of those conditions with which we are brought into close contact in our work. The public as well as ourselves are vainly groping for better physical conditions within our cities, but as yet the effort amounts to but little, owing to the nature of the endeavor rather than the amount of work done.

THE LACK OF CO-ORDINATION.

There are many groups of citizens working for the same end, but their efforts lack co-ordination and are therefore void of any great effect. Our architectural societies throughout the country have been very active. The members of our societies have striven hard and have worked with enthusiasm, but their effort has lacked one fundamental quality that must needs be found in such an endeavor if we are to be reasonably sure of success—we have not taken the people into our confidence in regard to the nature of the work which we have been doing. If we have desired more progressive legislation in questions involving Federal competitions or a better plan for our capital city of Washington, or if we have desired better tenement house laws or better factory regulations or a more reasonable building code, we have simply gone to the committees of Congress, or to our State Legislatures, or to the Board of Aldermen in our cities.

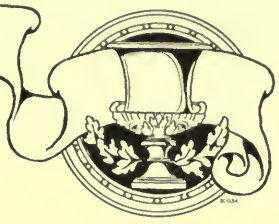
We have not shown through our past efforts that we understand the nature of our own problem, for it does not appear that we have yet grasped the fundamental idea that it is alone from the people themselves that the initiative must come which will, in its turn, produce the conditions and create the laws through which our ideals may in the end find expression.

We have not taken the issues to the people with a plain statement of what we desire so that they might bring pressure to bear upon their representatives. We have made the error of allowing the rank and file of the people to see only our artistic side. We have talked too early about the "City Beautiful"; we have not put due weight upon the fact that our aim is first to create the "City of Common Sense." We have not considered with them the penalty which we are to pay for our present slipshod methods.

THE REAL PROBLEM IN ALL ITS ASPECTS.

Our American cities are confronted with a grave problem, a problem so serious, so generally acknowledged, that the people would respond to our call if we would but point the way in terms expressive of utility and economy as well as of beauty. They know well enough that the conditions are bad; they have a vague idea of why they are bad, but they do not know the remedy to apply. In some of our cities the time is approaching when any effort on the part of its citizens will be in the nature of locking the barn door after the horse has been stolen.

As a result of the wonderful advance made in the art of construction during the last quarter century, we have a condition in our cities today that absolutely and utterly upsets all of the old traditions and customs regarding not only the plan of the city but the laws governing the erection of buildings therein. No longer do the old relations and harmony between the width of street, the size of block, the restricted area for light and air within the block, the height of building upon the street—no longer do these relations of harmony hold. There was a certain harmony between these relations which came as a result of years of evolution. This harmony was reasonable and in the course of time became precedent and later was acknowledged in our statutes and laws. In this old relation there was a certain permanence of value established through the limitations of the strength of materials.



It is this idea that has created the present congested condition within our cities. The complete change from masonry to steel, when confined to a single building, was a step in the *evolution* of building, but when applied to a whole city it was more in the nature of a *revolution*. Within the structure itself our laws acknowledged this evolution, but within the city as a whole they did not. Streets that were wide became narrow in comparison. The streets which cared for the daily crowds with ease have now become packed to a degree that is intolerable.

I have spoken of the "City Beautiful" and the "City of Common Sense." In passing let me say: Do not lose sight of the fact that all the buildings erected within our cities are built not because of any desire on the part of the owner to make something beautiful, but rather from considerations purely commercial and economic; that as an architect you are bound to satisfy his desire within the limitations of your own ability, on the one hand, and the laws and ordinances, on the other; that you cannot work out in a single problem any of your general ideals. Keep in mind that the people today will not listen to nor favor any attempt upon your part to provide the aesthetic alone, but they will accept it, and accept it gladly, if you can show them that it will come as the result of better economic conditions. Your measure will be taken more often by this standard than any other.

HOW THE PRESENT LAWS HINDER A CONSISTENT EXPRESSION.

Beyond the questions of economic construction, we have in our cities as a framework for all of our problems certain definite building laws that are as much a part of the program as the physical requirements. These laws have come to us through a very gradual and retarded process of evolu-



tion of many years, and they are so inwrought into the life and structure of a city that not only the public but we ourselves accept them as a perfectly natural condition, an established precedent. The primary object of these laws is one of safeguarding individual rights and providing general welfare, but exactly like all instruments of similar nature, these laws have not kept pace with the remarkable advance of construction or social welfare of the last quarter-century. In these laws we have not acknowledged the advance of the new democracy, the awakening of this nation to a sense of greater moral and social responsibility or the crying need of a policy of conservation within our cities.

In our cities throughout the length and breadth of our land these laws do not insure the proper light and air for our streets, for the restricted area within the block, or for the rooms within the buildings. We have towering buildings of fifty stories in height upon streets sixty feet in width. We have lofts and factories rising ten, fifteen and twenty stories in height with so little light and air at the bottom of the open courts provided at the side or the rear that we shall soon be brought face to face with the old conditions of the sweat shop if we continue to allow the erection of these buildings under the present conditions. We have apartment houses rising to an unlimited height and covering so large a percentage of the lot that, where the block has been completely built up, there remains little light and air for the rooms facing upon the courts or open spaces within. This can be characterized by no other terms than plain stupidity on the part either of the city or of the individual owners, for all that area within the block has little earning power compared with what it might earn were the laws and ordinances so designed as to prohibit building over so large an area. If the city permits this condition to continue, it is only a matter of time when we may again characterize the period as the Dark Ages.



THE STUPIDITY OF OUR PRESENT METHOD OF BUILDING CITIES.

I have said this was stupid on the part of the city and also on the part of the owner. The condition comes about through the activities of promoters who select a portion of the city wherein small buildings only exist; they erect there a tall loft, office building or apartment house, utilizing every inch of space allowed within the law, fill it with tenants —and sell. The purchaser, an individual oft-times who does not look to the future, sees only the excellent income from the building and does not consider the fact that when his neighbors build in like manner they will take from him a large proportion of his own property, which means that in the end his property will not only shrink in its earning capacity but will also depreciate in value. This is not all. It leaves his property for a cheaper class of tenants employing a cheaper class of labor, and we have as a result an anxious landlord and a great number of employees laboring in the semi-darkness.

This method of building our cities is foolish and stupid, for it results in an endless shifting and changing of the many groups of interest and a constant condition of uncertainty as regards character of locality and land values. Moreover, when we consider that we are advancing in our ideas of industrial justice and social welfare, it is pertinent to ask whether such a stupid policy will not ultimately end in a serious depreciation of property, such as we already see in certain sections of our cities filled with old-fashioned tenements, office buildings, lofts and factories. This method is not economical. By

this method of building we have rendered it practically impossible to get any commensurate value from a great number of lots which are surrounded by these buildings of great height, which have shut off their neighbors from light and air, elements to which they have as fundamental a right as they have to the land itself.

If the owners of these tall buildings were made to pay their proper share of the construction of transit facilities necessitated by their erection and necessary to maintain the value of the property, there would be less exploitation along that line of development.

THE ELEMENT OF FIRE DANGER.

Beyond providing for the proper amount of light and air for the workers in factories and offices and for the dwellers in tenements, we have the question of protection from fire to consider. In this same connection should be considered all of the great class of other buildings, such as department stores, theatres, and buildings of public assemblage. In our laws, as now framed, a proper protection has not been provided, because light and air have not been conserved.

The violation against human rights in this particular is flagrant in our lofts and department stores. Up to the present we have been allowed to build over vast areas structures which not only provide insufficient means of exit in the case of fire, but which allow the fire to spread easily and with great rapidity over the entire area of building, and from the basement to the roof.

THE SUGGESTED REMEDY.

I have made note of but a few important points wherein our laws are at fault, where they do not recognize the principles of economy, utility or beauty in building our cities. Before suggesting definite remedial measures I wish to consider the relation of the law and ordinance to art. They are closely related, in fact, they are so closely related that you cannot separate them; one is dependent upon the other. Through a knowledge of the state of one you can easily tell what is the state or condition of the other. I hope you will consider well this thought; it is alone through its recognition that we can advance. Look at our cities, the product of what we consider a great civilization. What is there in the scheme of things to inspire the architect to create, to invent, just so long as there exists as the framework of it all our stupid ideas regarding the conservation of our resources, light and air, or our even more stupid ideas concerning the economic use of the city block, or our utter misconception of the relation between individual and community right? I tell you that, so far as our art is concerned, we are working without a foundation just so long as we accept these relations without vigorous protest.



From my point of view it matters little indeed how we adorn or drape our steel frames, what masks we place upon them, just so long as there exist in our cities the conditions which we see at present. The conditions of our program are: A facade rising hundreds of feet, forming the wall of a narrow canyon, behind which we are to provide for thousands of workers, and of these nearly half spending their days behind windows opening upon narrow light wells, hundreds of feet deep, into which the sun never shines and where the phrase "light of day" would seem but a mockery. I ask you, before I proceed, what power of imagination could make of such conditions the inspiration for a work of art?

Before going further with remedies I wish to emphasize that, while these suggestions may appeal to you as being the obvious remedy, it is not so with the majority of our peo-

ple. In the way of all reform measures stands indifference and a gross misconception of the relation of individual and community rights. In giving to the individual almost unlimited rights, we have thought that he would thereby be benefited. As this has worked out, it has resulted in quite the opposite. The rights of the community must be dominant, else the individual will suffer.

ZONES.

Now, of the schemes, one is that we divide the city into sections, divisions, or zones, restricting each in such a way that it will be advantageous to build only one class of building therein, and of course, in this limitation definitely defining the maximum height upon the street and the size of enclosed restricted area within the block in such a way that there will always be ample light and air for all rooms.

Needless to say, such a limitation should not only concern itself with the nature of the occupancy, but it should also be so constructed that the frightful congestion of some of our streets, such as obtains today in many parts of our larger cities, would not be possible.

The suggestion of segregation appeals to me more forcibly than any other, for it seems to be of broader scope. It is in the nature of a real city plan, which has through years of development been overlooked. It would tend toward more permanent land values, a steadying appreciation of values, and toward the erection of a better and more permanent class of buildings. Lastly, it would tend also toward a greater uniformity of architectural treatment within certain well defined zones.

This is exactly what we would do if we were writing a program for a new city, as was done in the competition for a new capital city in Australia; it is what is being done in many of the cities of Europe, and particularly in Germany, where the people seem to have awakened to the need of a broader conception concerning the possibilities of our cities, both as commercial centers and as places in which we must live.

TENEMENT LAWS.

Our tenement laws are of the most vital importance, for upon the proper housing of our working classes depends in a very large measure our future economic success. Great strides have been made during the last twenty years; better laws have been framed; better conditions have resulted. The solution of this problem is not as yet at hand. We must provide that there will be cheap land upon which these may be built. We must provide a law that allows the most inexpensive fireproof construction possible. All of the elements must be so arranged that the occupant can live in a fireproof, sanitary structure which pays the owner a good return. There are many groups of citizens laboring upon the problem today, but the difficulties are such that only through the most conscientious effort may we expect to find a solution.

These are but a few of the many suggestions. Together their name is legion, but I hope that I have pointed out enough for you to see, in view of what I said in the beginning, that there are attending conditions which dominate your ability to create and design.

Again I state, it is not pertinent for us to argue too long or too earnestly over the form and nature of structural expression where there are fundamental questions, such as I have pointed out to you, still to solve.

If our laws governing the erection of tall buildings were such that we could erect these tall buildings, never encroaching upon our neighbors' light and air, nor congesting our streets, nor jeopardizing the light of those who dwell or work therein, then I would say that we could right-

fully consider seriously all these questions of structural expression. As it stands, such argument and discussion are but a waste of time, for while we might be able to make our new city interesting, the very fact that it is not sound economically or built with a proper consideration of conservation makes the idea that it may be beautiful an absurd assumption.

THE DANGER OF CONSIDERING ONLY THE SINGLE PROBLEM.

The major part of your time and the greatest interest in your endeavor centers around specific and definite problems having both paper programs and paper limitations. Through the constant exercise of certain faculties in your endeavor to solve your problems, and the repeated application of certain principles which you are taught in the school, you grow gradually to feel that architecture is closely related to an abstruse science and also that the art which is therein can only appear as resultant of your own personality. Always it is the single problem which engages your attention, and therefore the building or the group of buildings becomes a measure, as it were, of its designer. Its plan appears to be the result of his ingenuity, its character and expression the result of his cleverness.

Your whole training keeps your mind well within certain limitations. Your inspiration comes through a study of the results of conditions and not from conditions themselves; you learn to make use of elements which you find in books and to vary these elements to meet and satisfy certain fixed conditions imposed upon you, with the result that you grow naturally to look upon architecture as a personal achievement, simply the result of individual effort applied to a particular problem rather than, as I suggested before, an expression of constantly changing forces.

You try, and you use our own terms, to define an architecture expressive of our day, and you conclude that we have failed; but when you try to put into words your vague ideas of what it should be, or to create with your pencil an image which will express the thing after which you are groping, the result on the one hand is simply words, and on the other a graphic imitation of an old form.

Coming fresh from school, with its associations, its traditions and the material in the library, you realize, as do we all, that there is a vast amount of ugliness in the world today, and it is easy for you to attribute this to an utter lack of taste on the part of our people. You straightaway divide our people into two divisions: We, the architects, the artists, and they, the great mass of people of all classes who should be taught to understand. You see before you the problem and you say "we must educate them," and your method is this: You would gradually educate them by example, showing them beautiful designs and compositions of your own standard of art and beauty, designs which you would evolve from your minds in the studio.

THE DIRECTION IN WHICH WE MUST GO.

In conclusion let me suggest that if a remedy is to be found for these conditions much depends upon you. I take it for granted that each of you desires the better conditions suggested, and I say this to you: Better conditions will obtain, your ideals will be satisfied, and you will be responsible for better conditions just in proportion as you exercise the powers and perform the duties of citizenship in your community. You may indulge in flights of fancy if you like, but do not forget the fact that it is through the exercise of the franchise alone that there can be obtained for your program the conditions absolutely necessary for the working out of your ideals.



In our cities today there are many societies, and groups of individuals ambitious for better social, economic, physical and political conditions. When you consider carefully the work they are doing you will be surprised to find that they are in the main working for the betterment of our architectural programs, in other words, they are striving for our ideals. In the work of the many societies laboring for better housing, better fire protection, better sanitary conditions in stores, lofts and factories, greater safety and the reduction of congestion in our streets, the development of civic centers and the general aesthetic development of the city, we see but the furtherance of our aims. In the work of the American Institute of Architects and other architectural societies there is the same field open to you for service. In our own publications and in the daily press, through which alone we may hope to consider this matter with the people at large, a great and as yet almost undeveloped field is open to us, provided we can but come to realize the importance of considering seriously subjects of this sort with the people.



I have but pointed the direction. I know very well that I cannot bring these great problems fully home to you; but I want you to remember when you feel the conditions of practice choking your spirit, that there is a field of labor outside your offices and that there are problems which go far beyond your powers to solve in terms of steel and stone alone. In this broader field of service you are building into future ages, a spiritual structure lasting centuries beyond the life of material forms. If you, through your endeavor, after you have studied well and come to understand the problems, can take this message to the people and so state it that they will understand, then you will have achieved not only your right to your title of Architect, but a right also to the full significance of that far greater title—Citizen.





SOUTH FRONT—CLIVEDEN, GERMANTOWN, PHILADELPHIA.

# THREE TYPES OF GEORGIAN ARCHITECTVRE

## *The Evolvtion of the ſtyle in Philadelphia*

By Harold Donaldſon Eberlein

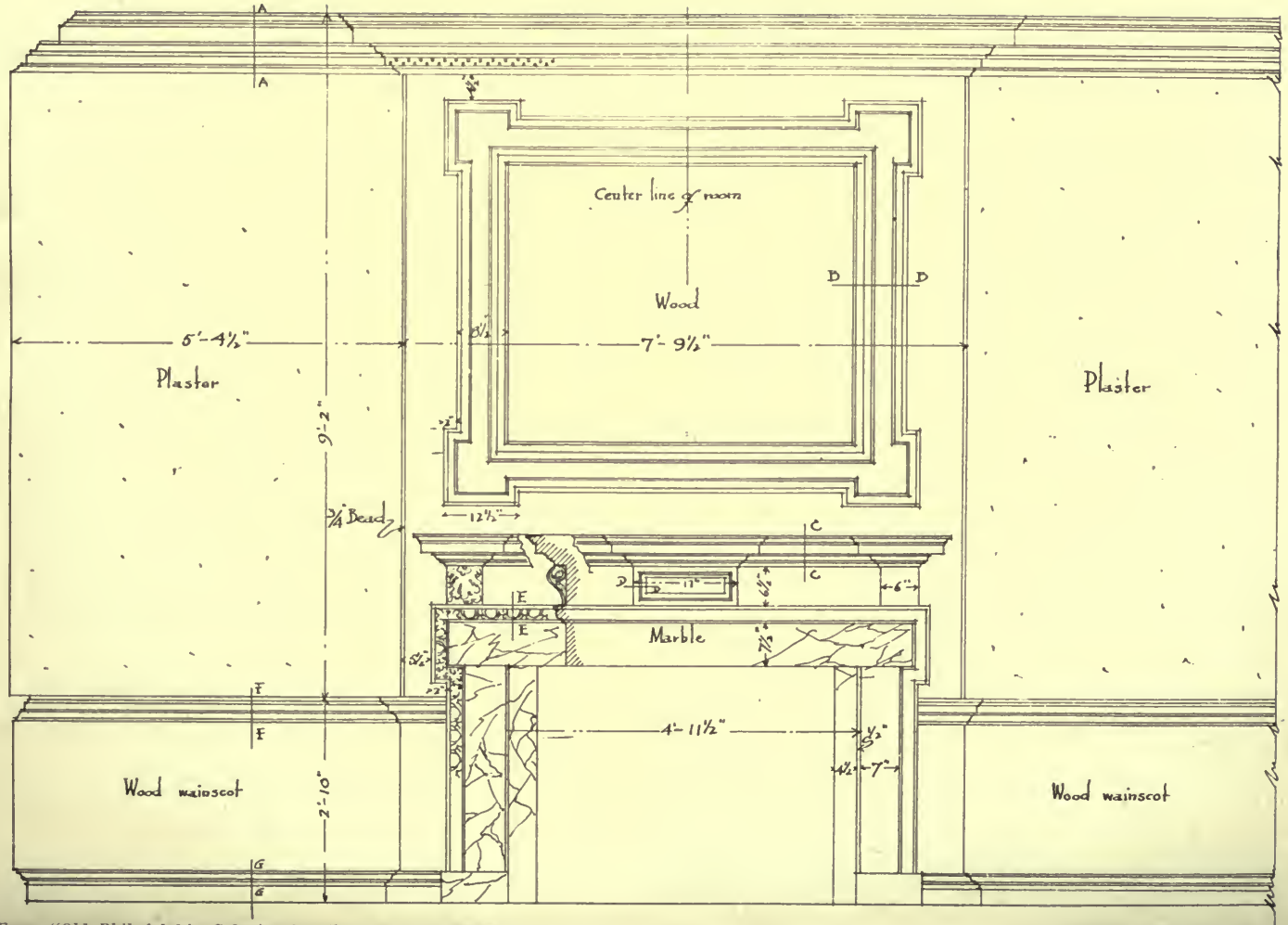
**PART II.***

ANOTHER house of the second Georgian type is Mt. Pleasant, or Clunie, as it was at first called, in Fairmount Park, built in 1761 by Captain John Macpherson, and in later years the home of Benedict Arnold. Mt. Pleasant is a structure of almost baronial aspect, with east and west fronts alike of imposing mien.

A high foundation of carefully squared stones is pierced by iron-barred basement windows set in stone frames. Above this massive, grisly base the thick stone walls are coated with yellow-grey roughcast. Heavy quoins of brick at the corners, and, at the north and south ends of the building, great quadruple chimneys joined into one at the top by arches, create an air of more than usual solidity. A broad flight of stone steps, their iron balustrades overgrown with a bushy mass of honeysuckle, leads up to a doorway of generous breadth. The pillars at each side of the door and the superimposed pediment, the ornate Palladian window immediately above on the second floor and, above that again, the corniced pediment springing from the eaves, all contribute to set a stamp of courtly distinction upon the pile.

Above the second floor the hipped roof springs, pierced east and west by two

*NOTE.—The first part of this article was published in July, 1913.




*From "Old Philadelphia Colonial Details," by J. P. Sims and Charles Willing; Architectural Book Publishing Co.*

DRAWING ROOM DE-
TAILS, CLIVEDEN, 1764

graceful dormers and crowned by a well turned balustrade that traverses nearly the whole distance between the chimneys. The fan-light over the door has remarkably heavy, fluted mullions and much of the detail throughout the house, though highly wrought, is heavy. The two flanking outbuildings, set thirty or forty feet distant from the northeast and southeast corners of the house, designed for servants' quarters and domestic offices, give Mt. Pleasant a peculiarly striking appearance. Without them it would be only an unusually handsome Georgian country house, with them it at once takes on the manorial port of one of the old Virginia mansions. The interior woodwork, both upstairs and down, is rich in elaboration of detail and the door-frames, with their heavily moulded pediments, are exceptional.

Cliveden, the third member of the second group, was built in 1761 by Chief Justice Chew. Its solid and heavy masonry is of carefully dressed Germantown stone, and at the peaks of the gables and corners of the roof are great stone urns. Back of the house are two wings, one semi-detached and the other entirely so, used for servants' quarters and domestic offices. All the features and detail about Cliveden are thoroughly in keeping with the same characteristics of the other two houses already described.

The windows are broad and fill a great part of the wall space in the façade and the doorway is a central feature that has been made the most of by the architect. Both indoors and out the strongly classic feeling has been emphasized in pillar and pediment, pilaster and entablature. Triglyphs, guttae and all other details of classic embellishment have been wrought with the nice precision due a worthy subject.

Comparing Whitby, Mt. Pleasant and Cliveden with the former houses of the first Georgian type, certain differences at once strike us. The whole aspect is changed by the greater breadth of windows and doors. The houses look wider awake. This change in the size of the windows means, of course, that the rooms within in most cases were lighter and more cheerful than before. Then, too, the Palladian window has appeared. Both Mt. Pleasant and Cliveden afford good examples, Cliveden's being placed at the side, while at Mt. Pleasant it forms an important feature in both the east and west fronts.

At Mt. Pleasant and Cliveden we see that the door has become a subject for elaborate treatment, quite in contrast to the extremely simple and unassuming manner of dealing with the same feature in the earlier houses. At Mt. Pleasant the severity of the roof line is tempered by a balustrade and the effective management of the chimneys, while at Whitby and Cliveden urns embellish the peaks and corners. Within we find that acanthus leaves and thistles have begun to grow, the rose has blossomed, other conventional flowers and foliage have budded and egg and dart mouldings have appeared. In other words, carving as a mode of embellishment has attained an established vogue. The moulding profiles have lost some of their trenchant boldness, and though the ornamental detail, both indoors and out, is still vigorous, and at times massive, there is generally visible an air of delicacy and refinement not present before.

The Woodlands, the Highlands and Upsala exemplify for us the third type of Georgian. William Hamilton built the Woodlands about 1770, Anthony Morris finished the Highlands in 1796, and Norton Johnson began Upsala in 1798 and completed it three years later. Across the north front of the Woodlands, at regular intervals, are six Ionic pilasters above whose tops runs an entablature whose frieze is adorned with paterae and fluting, the whole surmounted by a pediment. Before the house is a low and broad paved terrace filling the space between the semi-circular bays that project from the ends of the building. Between the two middle pilasters a round-arched doorway with a fan-light opens into the hall. On the south or river front a flight of steps ascends to a lofty white-pillared portico, from which a door opens directly into the oval-shaped ballroom.

In another respect the whole exterior aspect of the Woodlands is different from that of houses of the second type. Win-



*From "Colonial Homes of Philadelphia," by H. D. Eberlein and H. M. Lippincott; J B. Lippincott Co.*
PARLOR OF WHITBY HALL, KINGSESSING, PHILADELPHIA. BUILT IN 1754.

dow treatment is always a most important item in determining architectural character, and it is just here that a significant change is to be noted. The size of the opening is, in some cases, the same, in others it is larger but, more noticeable still, the muntins are far smaller and we lose the bold, trenchant barring of white that emphasizes the aspect of windows in the earlier buildings.

The interior is finished with all the delicacy that one might expect, judging from the evidences of Adam influence without. One highly significant feature of interior treatment in the houses of the third type is the change made in the arrangement of the mantels. We have seen that in houses of the first type, such as Graeme Park, and in houses of the second type, such as Whitby Hall or Mt. Pleasant, the overmantel panelling and embellishment were accorded much care and elaboration. The chimney breast often extended a considerable distance into the room and the ornamental superstructure above the fireplace reached all the way to the ceiling.

Although these ornate overmantels reaching to the ceiling had begun to fall into disfavor in England a little after the middle of the eighteenth century, when houses of the second Georgian type were being erected in the Philadelphia neighborhood, Colonial conservatism disregarded the newer style and clung to the mode approved by time-honored precedent. The fireplace with its setting has always held a position of such exalted honor as the centre of family life that the following extract from Clouston's treatise on Chippendale is particularly illuminating in this connection. In speaking of the influence exerted by Sir William Chambers on architecture as well as furniture, he says, "when he returned to England in 1755 [from the Continent] he was accompanied by Wilton and Cipriani, afterwards so well known as an artist and decorator. He also brought Italian



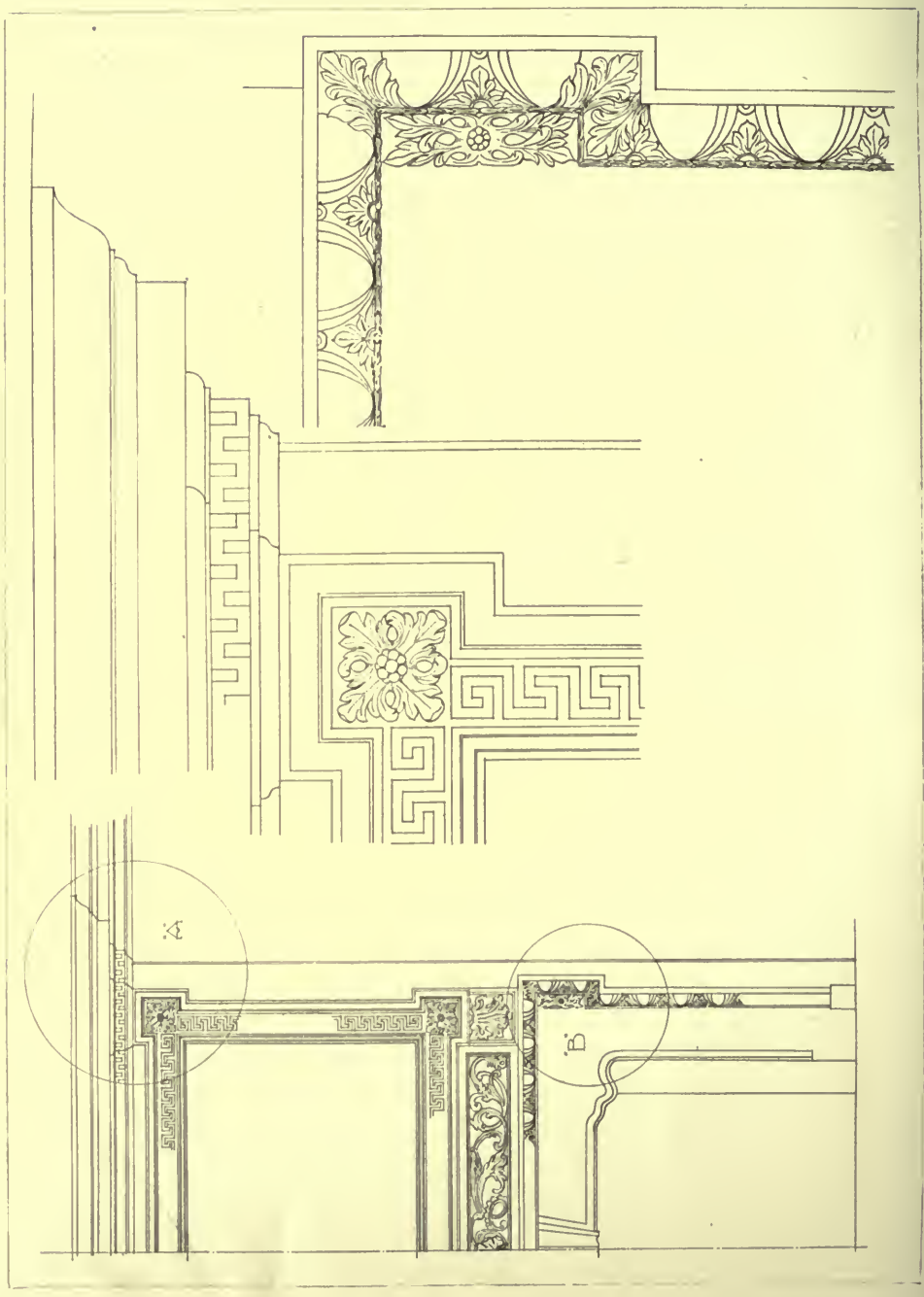
MANTEL DETAIL—WHITBY HALL, KINGSESSING, PHILADELPHIA.
An Example of the "Second Type" of Georgian.

sculptors to carve the marble mantelpieces he introduced into English houses.

"These were made from his own designs, and the ornament of figures, scrolls and foliage was free in character. Strange to say, these mantelpieces, designed and made by an architect, were yet the means of taking away this important part of interior decoration from the hands of the architect altogether and causing it to become quite a separate production, made and sold along with the grates.

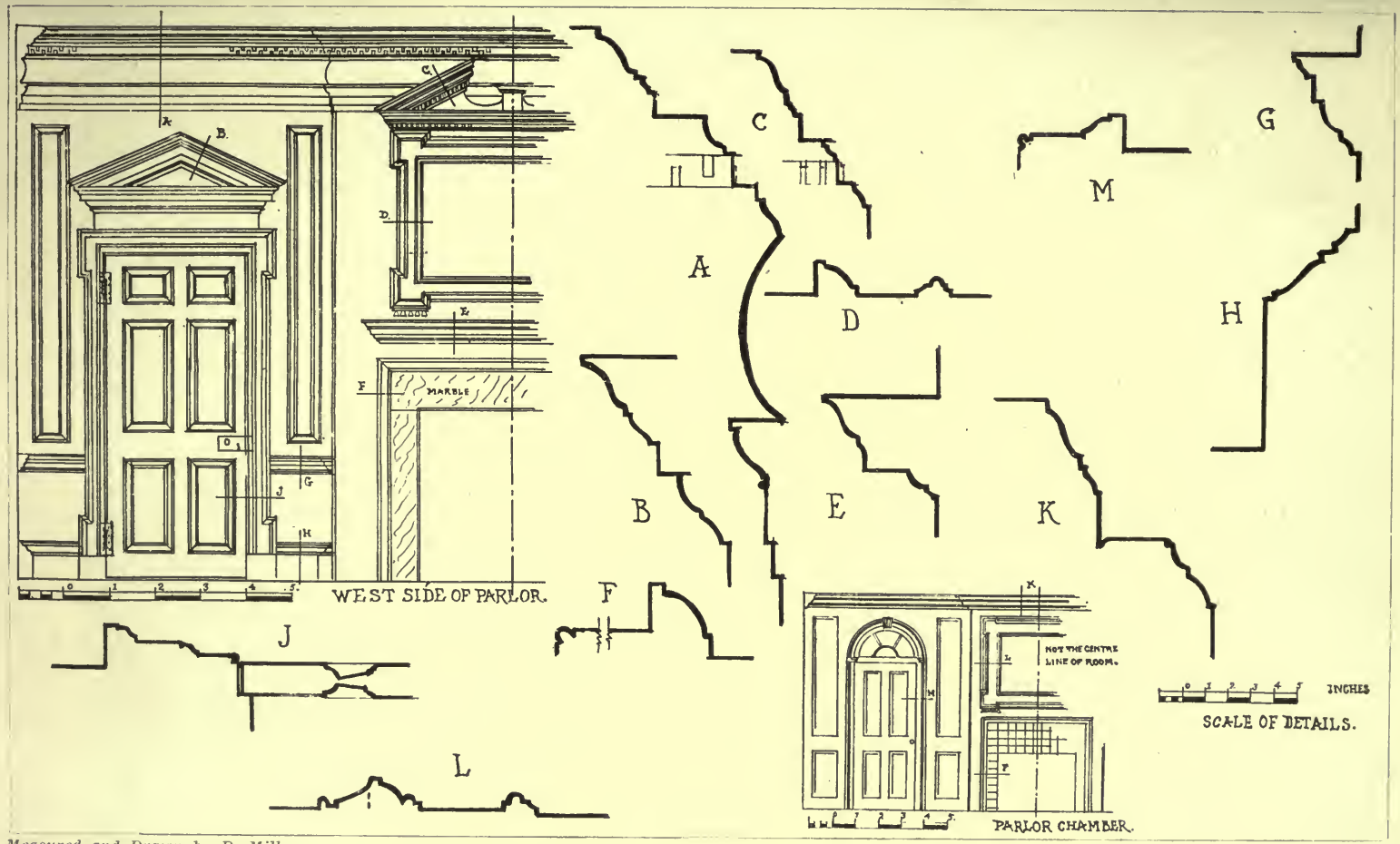
"In former times it had been an integrant portion of the rooms, reaching from floor to ceiling, balanced and made part of the wall by having its main lines carried round in panelling and enriched friezes. It was the keynote of decoration, and the master builder of the times grew fanciful and exerted his utmost skill upon its carving and quaint imagery, centralizing the whole ornament of the room around this household shrine.

"Mantelpieces had gradually come down in height, though still retaining much of their fine proportion and classic design. Many causes had contributed to this, the chief being the disuse of wood panelling and the preference given to hangings of damask, foreign leather and wall paper. In the reigns of Queen Anne and the Little Dutchman the custom of panelling was partially kept up, but the lining was only white painted deal, after the fashion in Holland. At this time the upper part of the chimney-piece was still retained, but only reached about half-way up the wall. Gibbs, Kent and Ware kept the superstructure as much as they could, but Sir William



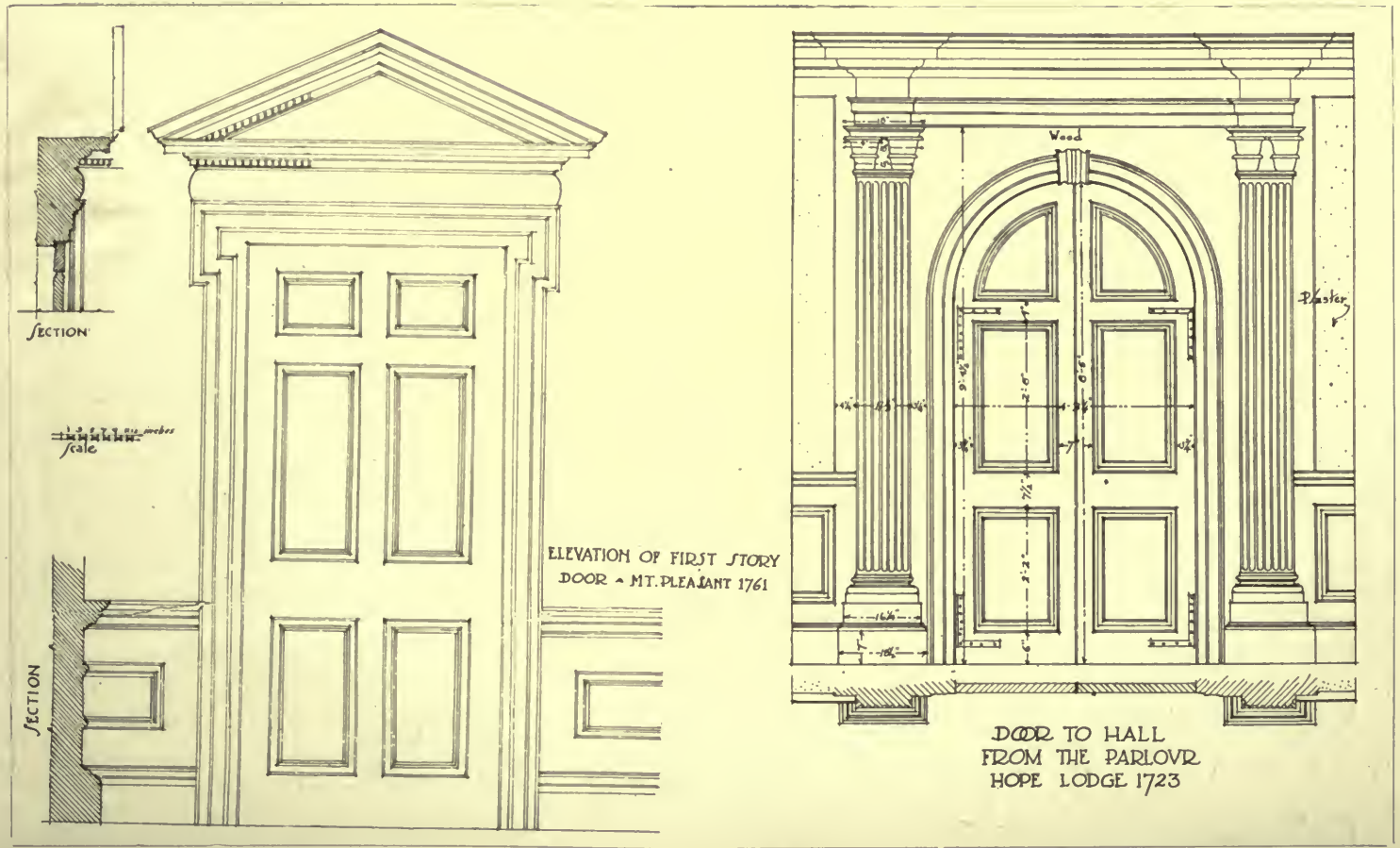

MANTEL DETAILS — WHITBY HALL, KINGSESSING, PHILA.

*Measured and Drawn by Albert Hewitt.*



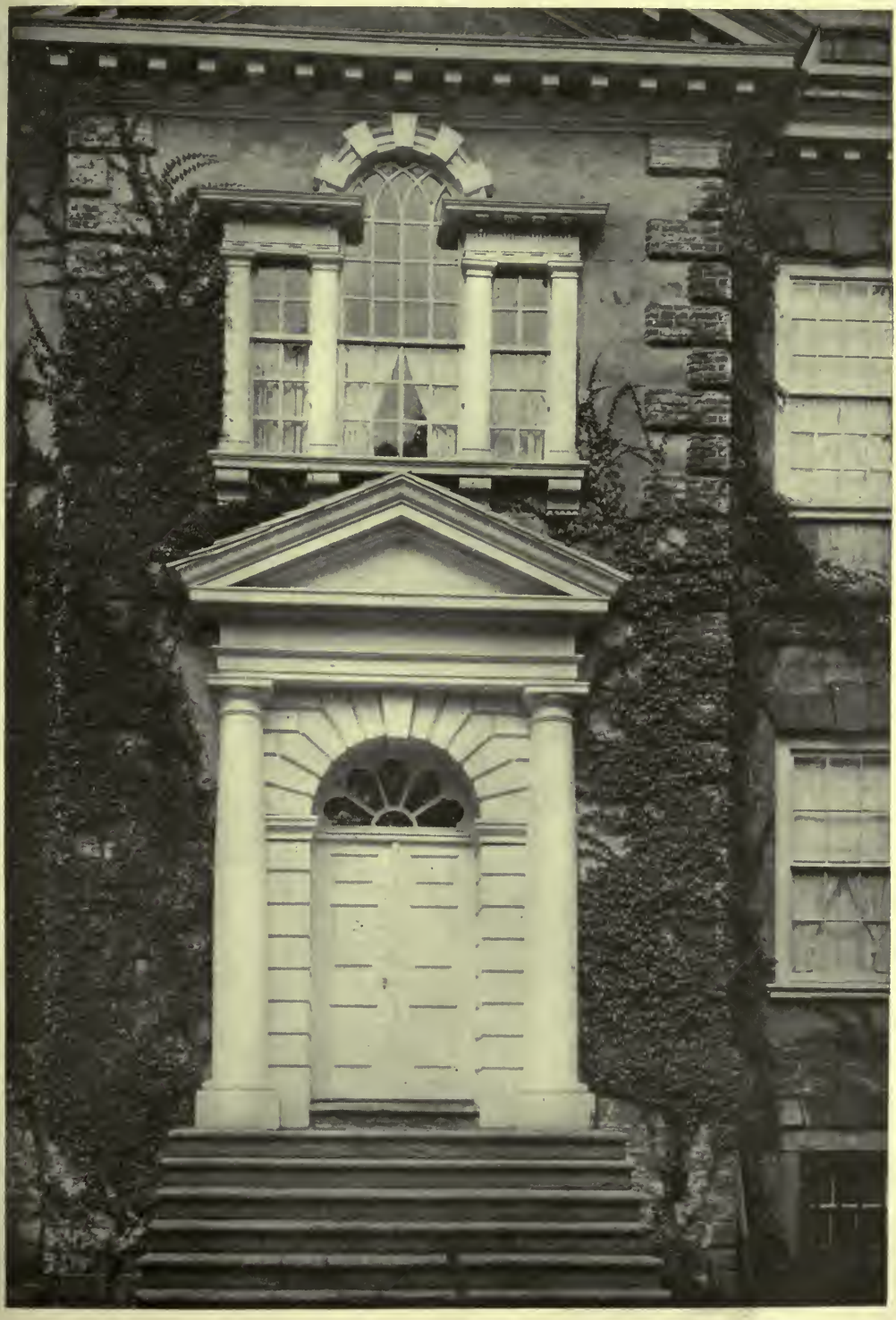

*Measured and Drawn by D. Millar.*

DRAWING ROOM DETAILS—
GRAEME PARK, 1722.




*Measured and drawn by Joseph Patterson Sims.*

DOOR DETAILS AT MOUNT PLEASANT AND HOPE LODGE.



WEST FRONT—MOUNT PLEASANT, PHILADELPHIA. BUILT 1761. AN EXAMPLE OF THE "SECOND TYPE" OF GEORGIAN.



EAST FRONT—MOUNT PLEASANT, PHILADELPHIA.



*From "Colonial Homes of Philadelphia."*

WEST FRONT—MOUNT PLEASANT, PHILADELPHIA.



DETAIL OF WOODWORK—
GREAT CHAMBER, MOUNT
PLEASANT, PHILADELPHIA.



STAIRWAY—MOUNT PLEASANT, PHILADELPHIA



PARLOR — MOUNT
PLEASANT, PHILADELPHIA



DETAIL OF NORTH FRONT—THE WOODLANDS, PHILADELPHIA.

Chambers dealt it the most crushing blow it had yet received by copying the later French and Italian styles and giving minute detail more consideration than fine proportion. He discarded the upper part altogether and helped to make 'continued chimney pieces' things of the past."

The much used Adam oval found expression even in the shapes of rooms and, besides the oval ball-room at the Woodlands, we frequently find in houses of the third type rounded or elliptical hallways and chambers.

At the Highlands, in the Whitemarsh Valley, we see the front of the house adorned with tall Ionic pilasters rising from base course to cornice, which is itself elaborately wrought. The woodwork inside is excellent, but unfortunately the Adam mantels with their compo decoration, have been removed and now grace another house some miles distant. At Upsala, in Germantown, however, we are in better luck, for there the Adam mantels have remained untouched. The illustrations show the rest of the house sufficiently to make further specific comment unnecessary, save to remark, regarding the windows, that here, as in other houses of this latest type, larger panes of glass than in the two earlier types are met with in not a few instances.

Before proceeding further in the course of comparison, a word ought to be said about the color of the paint used for the interior woodwork of the Georgian houses of all three types. For some reason there seems to be an impression abroad that white was employed to the exclusion of everything else. There was, it is true, a preponderance of white, but its use was by no means universal. A close examination of successive layers of paint on some old woodwork reveals various shades of greys, blues, drabs, brownish yellows and other hues beneath one or more coats of white. Grey seems to have been one of the earliest variants from white and, in some places, nothing else was ever used. At Graeme Park, for instance, the first coat of paint was grey and no other color ever adorned its panelling and door and window trims. At Stenton, on the other hand, the taste of the occupants dictated a change of color from time to time, and we find a good deal of variety in the successive coats. During the prevalence of the second Georgian type white seems



NORTH DOOR—THE WOODLANDS, PHILADELPHIA. BUILT ABOUT 1770. AN EXAMPLE OF THE "THIRD TYPE" OF GEORGIAN.

to have found more general favor. With our last type delicate colors again began to be used.

Contrasting the Woodlands, the Highlands and Upsala with the houses illustrating the second Georgian type, we find still further evidences of architectural evolution. During the prevalence of the second type individual features were singled out for decorative emphasis, but in the days of the third type the entire front of a house or sometimes the whole exterior was regarded from a decorative point of view. At Cliveden the treatment of the doorway and the urns on the roof are the features relied upon for the embellishment of the façade. At Mt. Pleasant the doorways of the east and west fronts, the Palladian windows above them, the balustrade on the roof and the treatment of the chimneys supply a fuller and more ornate decorative effect. But when we reach the third period we see that the architect has considered carefully the decorative element in both the proportions and detail of the whole building. It would be hard to believe that the designer of the Woodlands, in drawing his plans, had not carefully aimed at the pleasing ensemble of his masses. The effect of the rounded ends is agreeable, and a marked departure from the straightforward rectangularity of most of the houses of preceding types. The lofty portico of the Woodlands' south or river front had no precedent in Philadelphia. Vaux Hill or Fatland, erected about the same time, and Loudoun, a few years later, had the same *motif*, and even John Bartram, in his last addition to his house, adopted the same treatment. Neither was there a precedent for the method of dealing with the north front, so we see that the Woodlands struck two new notes in local architecture.

At the Woodlands and the Highlands we find pilasters carried the full height of the walls—a new feature. The fenestration is arranged with more regard to outward appearance and not solely from a utilitarian point of view. We find that the high panelled overmantels which constituted an important architectural feature had given place to the low and elaborately adorned mantel that ought to be regarded rather as a piece of furniture than an architectural entity. Fireplaces had grown smaller. Fan-lights above doors had become common and were enriched with beautiful and sometimes intricate metal tracery. The comparison between these later fan-lights, with their airy grace, and the earlier fan-lights of Mt. Pleasant, with their ponderous mullions, is instructive. In the detail of all ornament heaviness has vanished and the polished elegance of Adam influence has taken its place. Everywhere we find paterae, drops and swags, fluting and quilling, oval fans and dainty urns and vases with delicate leaf and flower treatment.

Regarding the texture of stone walls, we ought also to note that in the second and third types we find neatly squared and dressed stones used to a considerable extent. At Cliveden, the Highlands and Upsala the fronts alone are of cut stone, while at Whitby Hall the walls on all sides are treated with the same formal precision.

Briefly summing up, then, it is clear that three distinct types exist. The first has Queen Anne affinities, but is Georgian in time and much of its feeling. Ornamental detail is simple and bold and at times a trifle heavy. The profiles of mouldings are strong and in high relief. Simplicity and strength, combined with grace, give the prevailing note in every instance. The second type is lighter and more ornate, but, with characteristic conservatism and abhorrence of the new-fangled whims of Sir William Chambers and the Brothers Adam, Philadelphia adhered to the modes in vogue in England from twenty-five to fifty years before and kept Ware in countenance, who, in 1750, was still crowning his buildings with heavy Queen Anne urns.

Notwithstanding this staunch adherence to conservative architectural principles, however, a new feeling is everywhere perceptible. Though the overmantel decorations still extended all the way to the ceiling, the character of the ornamentation employed was vastly more elaborate and graceful than anything to be found in buildings of the first type.



SOUTH OR RIVER FRONT—THE WOODLANDS, PHILADELPHIA.

If the profiles of mouldings were not so bold and insistent they were, nevertheless, quite as graceful. With the advent of floriated and foliated motifs in the carving we naturally find a closer care to detail of all kinds. At the same time there is to be seen a more punctilious heed to all the little niceties and characteristic distinctions between the classic orders.

By the time our third Georgian type appears Adam influence has become paramount and put to flight all mid-Georgian ponderosity. Even in the cases of manifestly "carpenter-built" houses of the period where, quite unlike the three excellent examples which were chosen to represent their particular classes, no especial architectural merit is to be looked for, we find no heaviness of line and the character of ornamentation employed is distinctly either a copy or an echo of Adam motifs and in not a few cases has caught much of their spirit.

It must be understood that the houses used for illustration have been chosen because they represent their many contemporaries in the same neighborhood, all of which display the same characteristics according to the dates at which they were built. The foregoing analysis does not pretend to be complete — it would take far more space to trace all the subtleties of the subject—but aims only to direct attention to certain facts that may conduce to clearer understanding of American Georgian and its resources in supplying our present needs.

In considering the variations between the Georgian types of the Philadelphia neighborhood, it must be borne in mind that they ought not to be judged too strictly by contemporary work in England. Such comparison would only be misleading and unfair for several reasons. In the first place, at the beginning of the Georgian period, local conditions forbade the lavish display of carved ornamentation that marked so many houses of the same date in England. At that time there were few craftsmen in the Colonies capable of executing the elaborate carving in vogue on the other side of the Atlantic. The builders of mansions, therefore, must perforce content themselves by a close adherence to lines and proportion and do without the highly wrought carved embellishment. Then,

too, besides this difficulty, many of the builders of these early houses belonged to the Society of Friends and from their religious principles they were averse to a wealth of ornament.

In the second place, judgment by contemporary English standards would be misleading, because at the time the second Philadelphia Georgian type began to flourish, and the means and inclination for elaborate ornament were both present, Colonial conservatism had become an important factor in the dictation of styles and, however closely Philadelphians might copy the current modes of London in matters of dress, in their manners and architecture they chose to cling to well established precedent and always remained thenceforward from twenty to thirty-five years back of their British cousins in the method of their architectural expression. Hence, for instance, overmantels reaching to the ceiling were built as late as 1765. In all its phases, however, Philadelphia Georgian, whatever minor differences there might have been, was true to the traditions of the great English architects and because of its purity of style is worthy of close study to-day for the vital inspiration it can supply to our own generation.



EAST FRONT—UPSALA, GERMANTOWN, PHILADELPHIA.
An Example of the "Third Type" of Georgian.

# Some Recent Interiors
## by
# Thornton Chard



Library, Residence of
Dave H. Morris, Esq., New York



ENTRANCE HALL—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



RECEPTION ROOM—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



OWNER'S ROOM—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



MUSIC ROOM—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY.
THORNTON CHARD, ARCHITECT.



DINING ROOM—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY.
Thornton Chard, Architect.



DINING ROOM—RESIDENCE OF DAVE H. MORRIS, ESQ., NEW YORK CITY.
**Thornton Chard, Architect.**



ENTRANCE HALL—RESIDENCE OF JAMES L. BARCLAY, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



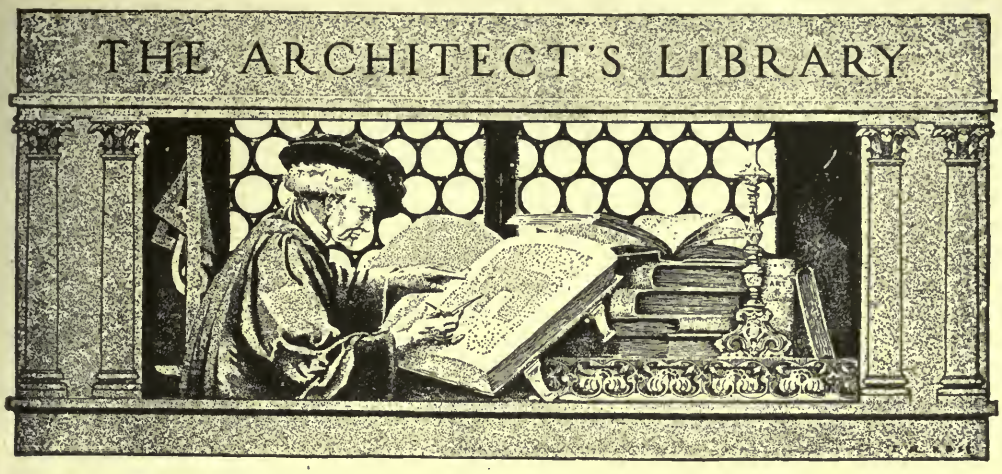
DRAWING ROOM—RESIDENCE OF JAMES L. BARCLAY, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



SITTING ROOM — RESIDENCE OF JAMES L. BARCLAY, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.



DINING ROOM—RESIDENCE OF JAMES L. BARCLAY, ESQ., NEW YORK CITY. THORNTON CHARD, ARCHITECT.




# TWO BOOKS BY PRACTICAL THEORISTS

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART II.

THE utterances of Professor Cram of the Massachusetts Institute of Technology are not to be taken lightly. He is a thinker of discernment and brings to his work a varied experience, making contact with the world of art at many points. His mind is an admirable crucible in which this experience tempers theory and produces wisdom. In *The Ministry of Art* (Houghton, Mifflin; 8vo, $1.50) Mr. Cram has brought together a number of papers upon a series of topics ranging from the purely theoretic essay "Art the Revealer" to the historical and critical "American University Architecture." But though there may be diversity of title there is in all of these discussions a unity of purpose—a purpose common to all artists and shunned by many of their number—namely that of teaching, a mission which a person of sterling worth in the fine arts cannot well avoid. But few of us play our "full part in God's cosmogony" and it is to assure us that we have yet much to attain before satisfying that full part that Mr. Cram sets out to clothe art, and inferentially artists, with the proper ministerial dignity. Early in his book he quotes Protagoras: "Man is the measure of all things" and cannot resist the epigram: "Art is the measure of man."

But let us first examine the avowed purpose of this volume; we find it definitely stated in the first few pages. For instance: ". . . by the words 'The Ministry of Art' I mean that function which I think art has performed, and always can perform, as an agency working toward the redemption of human character; and in this aspect . . it takes on something of that quality which characterizes ministers of the Christian Church. . . And this I conceive to be the highest function of the artist and the art that is his agency of operation. Not that I would for a moment make this an exclusive property; art has sufficient reason for existence in its quality as a creator of simple, sensuous joy and refreshment, as a beneficent force expressing itself through . . pure beauty. . . Art may do more than make life beautiful, in that it can act symbolically, tropically, sacramentally, and so become the supreme means of

expressing and of inciting and exalting, those emotions which transcend experience and may not in any degree find voice through those channels of expression which are entirely adequate for the purposes of the intellect."

We may sum up in a few words the burden of the first paper, entitled "Art the Revealer," delivered at the inauguration of Rice Institute, Houston, Texas. Mr. Cram considers art "an indispensable means toward the building of character." The older educational systems failed to recognize this fundamental truth and they taught art as they did engineering, from the purely vocational standpoint. In great measure we are yet guilty of such methods. But art has a greater scope, "for in all its manifestations . . it is the only visible and concrete expression of the mystical power in man which is greater than physical force, greater than physical mind, whether . . we call it intuition or . . immortal soul." Art functions as the "symbolic expression of otherwise inexpressible ideas," it is the splendid realization of the striving that tortures the artist. We see it well illustrated in the greatest of artists, Michelangelo himself, whose conceptions were snatched from the peaks of heaven, only to leave him discontented in the paucity of their tangible form. In this connection we recall Browning's words: "A man's reach must exceed his grasp, or what is heaven for?" We may take our lesson from the latter part of this lecture; it is of value for him who paints and for him who writes, for him who carves and for him who builds. "I find in many places laboratories of art industry where, after one fashion or another —and not always well advised—is shown how to spread paint on canvas; how to pat mud into some quaint resemblance to human or zoological forms; how to produce the voice in singing; how to manipulate the fingers in uneven contest with ingenious musical instruments; how to assemble lines and washes on Whatman paper so that an alien mason may translate them, with as little violence as possible, into terms of brick and stone—or plaster and papier maché. And I find names and dates and sequences of artists taught from text-books, and sources and influences taught from fertile imaginations, together with erudite schemes and plots of authorship and attribution; but where shall we find the philosophy, the rationale of art, inculcated as an elemental portion of the history of man and of his civilization? . . We build our little categorical box-stalls and herd history in one, art in another, religion in a third, philosophy in a fourth, and so on, until we have built a labyrinth of little cells, hermetically sealed and securely insulated, and then we wonder that our own civilization is of the same sort, and that over us hangs the threat of an ultimate bursting forth of imprisoned and antagonistic forces, with chaos and anarchy as the predicted end."

Mr. Cram is on his own chosen ground in "The Philosophy of the Gothic Restoration." We have often been charmed by his Romanticism, and his gauntlet always bears the challenge when Gothic art is mentioned. As a faithful champion, then, he plunges into his theme of the Gothic Restoration with a fervor that recalls his earlier work *The Gothic Quest*. In the course of this paper two-edged tribute is paid to Richardson: "The first great genius in American architecture, he rolled like an æsthetic Juggernaut over the prostrate bodies of his peers and the public." We are not a little surprised that the author found some of the Richardsonian influence at work in Japan. "Richardson will be remembered, not as the discoverer of a new style, but as the man who made architecture a living art once more."

Then follows a warning cry to avert the ultimate horror of steel. "The steel frame is the *enfant terrible* of architecture, but like so many of the same genus, it may grow up to be a serious minded citizen and a good father. It isn't that now; it is a menace, not only to architecture, but to society, but it is young and it is having its fling. . . Like all good servants it makes the worst possible master; and when it enables us to reproduce the Baths of Caracalla, vaults and all, at half the price, or build a second Chartres Cathedral with no danger

from thrusting arches, and with flying buttresses that may be content beautifully to exist, since they will have no other work to do, then it is time to call a halt. The foundation of architecture is structural integrity; and it does not matter if a building is as beautiful as the Pennsylvania Station in New York, if its columns merely hide the working steel within, if its vast vaults are plaster on steel frame and expanded metal, then it is not architecture, it is scene-painting, and it takes its place with that other scene-painting of the late Renaissance to which we mistakenly apply the name architecture." This and many other poignant paragraphs we find in this paper, full of truth, and with a depth of significance that assumes now the tone of admonition and now that of prophecy, and the prophecy is that most readily to be expected of the author of St. Thomas' Church and the Graduate College at Princeton; it is that "now is the time . . to gather up once more the priceless heritage of mediævalism." But why of mediævalism, why not of something else? If we are working out our artistic destiny, at the moment expressing ourselves in a number of styles, how can we in justice to ourselves go back to yet other forms and warp them to our needs? To be sure there is no lack of beauty in such resuscitated forms, witness the Pugins of last century, and witness Bryn Mawr and the University of Pennsylvania and West Point; but there is on the other hand no reason to suppose that the beauty of the spirit of Gothic can be revived in any greater degree than the beauty of the spirit of any other style that finds ephemeral favor in the year 1914. It must be a beauty of the letter only, of the hard and tangible form, which breathes an atmosphere of a dead past only because of its earlier association with that past. There is lacking what some philosophers would call the reality of the spirit. But then, when men of Mr. Cram's dignity and authority have formulated their theses, we have not to cavil, but simply to await the realization, be it a glorification or a fall. To Mr. Cram, at least, Gothic is the oriflamme, or the fiery sign adopted by Constantine after the battle of the Milvian Bridge, and its legend is: "in hoc signo vinces."

Other good papers in the volume are entitled "The Artist and the World" and "The Craftsman and the Architect," again prompted by the assured mediævalism of the author; but we hasten on to a fine paper on "American University Architecture" read before the Royal Institute of British Architects. The subject matter is treated historically, through old Harvard, the "Jeffersonian" of the University of Virginia, Upjohn and the American reflection of Pugin, and the more modern congeries of styles, McKim and the buildings at Columbia, the "Boulevardesque" of Yale and of Annapolis, and the modern Gothic—forerunner of the great restoration to come, if you choose—at West Point, Princeton, Chicago, Bryn Mawr, not to mention the projected designs for the Virginia Military Institute.

Next we have a suggestive and interesting discussion of the differences between American and English planning with reference to purpose in the universities. Much space is given to Princeton, of which the author is the supervising architect.

Finally comes the excellent article which provides the title for the volume. It is a parting shot; a sort of æsthetic moral to take with you to your study and to make part of your reflection. Michelet said that "history is only a series of resurrections." After we are through with *The Ministry of Art* we readily consider architecture one of the greatest of history-makers. In the course of the last paper we find this lucid passage: "..art..is neither a commodity, nor a form of amusement, nor an amenity of life, but a wonderful attribute of man who is made in God's image, a subtle language, and a mystery that, in its nature, we may with reverence call sacramental."

We shall keep the book near us, for it affords a wealth of inspiration for the Gothicist and for his enemy, nor can we faithfully say, after reading the last page, with which camp we desire to throw our fortunes.

# BOOKS RECEIVED FROM PUBLISHERS

## DEALING WITH ARCHITECTURE AND ALLIED ARTS

Design in Landscape Gardening. By Ralph Rodney Root, assistant professor of landscape gardening, University of Illinois, and Charles Fabiens Kelley, assistant professor of art, Ohio State University. Ill., 8vo, 265 p., index. New York: The Century Co. $2.

Early American Churches. By Aymar Embury II. Ill., large 8vo, 184 p. Garden City, N. Y.: Doubleday, Page & Co. $2.80.

Country Houses. By Aymar Embury II. Selected and edited by Henry H. Saylor. A collection of photographs of exteriors and interiors, with floor plans. 4to, 135 p. Garden City, N. Y.: Doubleday, Page & Co. $3.

Power, Heating and Ventilation, Part II: Heating and Ventilating Plants. A treatise for designing and constructing engineers, architects and students. By Charles L. Hubbard, consulting engineer. 2d ed. Ill., 8vo, 302 p., index. New York: McGraw-Hill Book Co. $2.50.

The Commercial Problem in Buildings. A discussion of the economic and structural essentials of profitable buildings, and the basis for valuation of improved real estate. By Cecil C. Evers, vice-president of the Lawyers Mortgage Co. Ill., 8vo, 271 p., index. New York: The Record and Guide Co. $1.50.

Nineteenth Annual Report, 1914, of the American Scenic and Historic Preservation Society to the Legislature of the State of New York. Submitted by George Frederick Kunz, president; Edward Hagaman Hall, secretary. 8vo, 716 p., and 76 plates, index. Assembly Doc. No. 57, Albany, N. Y.

Old Philadelphia Colonial Details. Measured and Drawn by Joseph Patterson Sims and Charles Willing. Large folio, 55 plates. New York: The Architectural Book Publishing Co. $10 unbound, $12 bound.

A Monograph of the Work of McKim, Mead & White, 1879-1915. To be published in about twelve parts. Large folio. Parts I, II and III, each with 20 plates. New York: The Architectural Book Publishing Co. $5 a part.

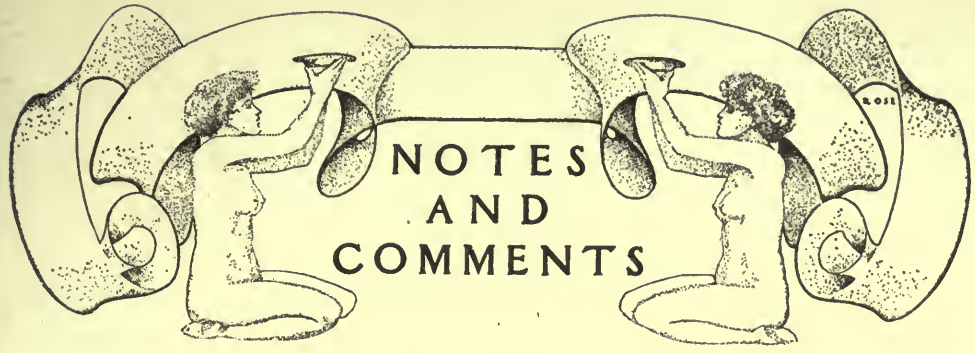
The Preservation of Structural Timbers. By Howard F. Weiss, director, Forest Products Laboratory, U. S. Forest Service. Ill., 8vo, 303 p., index. New York: McGraw-Hill Book Co. $3.

The English Parish Church. An account of the chief building types and of their materials during nine centuries. By Charles Cox, LL.D., F.S.A., author of "English Church Furniture," etc. Ill., 8vo, 318 p., index. London: B. T. Batsford. New York: Charles Scribner's Sons, $3.

A Book of Architectural and Decorative Drawings by Bertram Grosvenor Goodhue. Text includes "An Explanation and Acknowledgment" by E. Donald Robb, "An Architect's Renderings and Some of His Works" by Frank Chouteau Brown, and "As to Types and the Decoration of Books" by H. Ingalls Kimball. Large folio, 134 p., with many full page plates. New York: The Architectural Book Publishing Co. $9.

Universal Safety Standards. A reference book of rules, drawings, tables, formulae, data and suggestions for the use of architects, engineers, superintendents, foremen, inspectors, mechanics and students. By Carl M. Hansen, M.E., consulting safety engineer, member American Society Mechanical Engineers. Compiled under the direction of and approved by the Workmen's Compensation Service Bureau of New York. 2d ed. New York: Universal Safety Standards Publishing Co. $3.

American Art Annual. Vol. XI, 1914. Florence N. Levy, editor. New York: American Federation of Arts. $5.




**Sculpture and Architectural Design.**

Quite recently a well-known architect explained, presumably by way of apology for certain large groups of sculpture he had included in the design for an important public building, that Americans had "gone sculpture mad." And when one takes into consideration some of the latest results obtained with buildings upon which sculpture has been employed, it will be acknowledged that this architect was justified in his use of the word "mad." Two recent examples in New York have been most unsuccessful, and the reason for the failure is not hard to find.

That American sculptors can work with architects to their mutual advantage and with still greater advantage to the subject of their collaboration has often enough been demonstrated. As a single example, because it was the earliest, the buildings at the World's Columbian Exposition at Chicago may be recalled. Never before that time had American architects been given so splendid an opportunity to do their best. Not even had the competition for the Federal Capitol at Washington in any sense, actually or comparatively, put so many possibilities before the architects of the last years of the eighteenth century.

And never before the Columbian Exposition, or since then, have American architects so splendidly taken advantage of the opportunities offered in large public or private work, excepting, possibly, that not a few of our architectural forefathers who submitted designs in the Washington competition, had, as shown by the original drawings preserved in the library of the Maryland Historical Society, included most ambitious but rather top-heavy, not entirely structural or constructable, but altogether amazing groups of statuary in their designs. Not that we have not had sculpture and mural decorations enough in our work, but much that we have shows that it was produced in an unfortunate and ill-advised manner.

The buildings at Chicago, designed, as Henry Van Brunt said, "in a style evolved from, and expressive of the highest civilizations in history," were far from perfect, and to be sure they gave visitors some wonderful surprises. The Iowa State Building, for instance, as an early French Renaissance chateau shocked the feelings of both European and the better informed American visitors. McKim, Mead & White's Villa Medici, as the New York State Building, and many others, had "just a touch of genius," as one visitor said, that made them not only inoffensive, but actually interesting and inspiring. Many architects date their first architectural ambition from the day they visited the World's Columbian Exposition.

The one circumstance, aside from this "touch of genius," that made the exposition an architectural success was the policy of co-operation between architects and sculptors, that had been decided upon at the very start by Daniel Burnham as architect in chief and I. W. Root as consulting architect.

Only by such joint work in other cases can sculpture regain its place, so long lost, as a means of architectural decoration. The modern method of designing "nice" or "ideal" statues without regard for a relation to the architectural background has done as much, on the one hand, as the method of designing the statue in direct elevation by the architect and then handing the sketches to a sculptor for execution has done, on the other, toward spoiling a large part of modern work upon which architects and sculptors have collaborated.

There are as great possibilities before the architect now as there were before Greek, Roman or Gothic architects in the

use of sculpture in connection with American building, and we may well look forward to splendid things to be accomplished when this proper spirit of mutual co-operation and sympathy by the various artists concerned—architects, painters and sculptors, is at last realized, but recent work seems only to emphasize the total lack of any such sympathy as well as a complete indifference to the necessary limitations of sculpture as the highest form of decoration in connection with beautiful buildings.

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**Architectural Competitions.**

The present system of choosing an architectural design in competition, rather than holding a competition for the purpose of choosing an architect to study the problem at hand is manifestly a bad system for architects as well as for their clients. "The Nature and Function of Art, more Especially of Architecture," a book by the late Leopold Eidlitz, published in 1881, is seldom read by architects of the present time. But it contains an amount of suggestion and practical, helpful criticism not often met with in books of an earlier or later date. Eidlitz felt as he wrote, and he wrote independently and fearlessly, with full confidence in his own convictions. In spite of his interest in the larger aspects of ideals and aesthetics, space was found in the book for a discussion of competitions. This is under the general heading of Architecture and Its Patrons.

All art, he says, "finally seeks appreciation and a market with an audience; but it is successful art only in the ratio inversely proportional to its dependence upon immediate popular approval. Architectural art is especially unfortunate in this respect: it submits to popular interference while in the process of creation." Against this interference he vigorously protests. "There is no art or trade—there never was one outside of modern architecture—which is found to be willing to court popular criticism and to abide by its decision before its works are executed."

An architectural design, he continues "is a conventional geometrical representation of an imagined object, the merits of which laymen attempt to determine by looking at this conventional drawing." If it were possible to have juries composed entirely of architects this objection would be done away with, but even a single architectural adviser is lacking in the great majority of competitors. "It is true the architect is supposed to assist the process by furnishing a perspective view; but here the layman is more at sea than ever. He is pleased with the technical skill and the artistic feeling which are displayed in the production of this picture. He admires the picture, and imagines the architecture it represents to be good; or he is displeased, or left indifferent by the picture and condemns the architecture."

That the architect, working as he does with the client's own material and upon his client's land, must be willing to make clear to the owner just what the results are going to be is perfectly natural, but it would seem that architects should protest against too great interference by owners or committee. Eidlitz says, "Had the architect the authority to correct his client in the same sense in which it is conceded to the lawyer, the doctor, the shipwright, or even the tailor or shoemaker, he would be employed by reason of the merit of his finished work, and would not be asked to submit a design for approval.

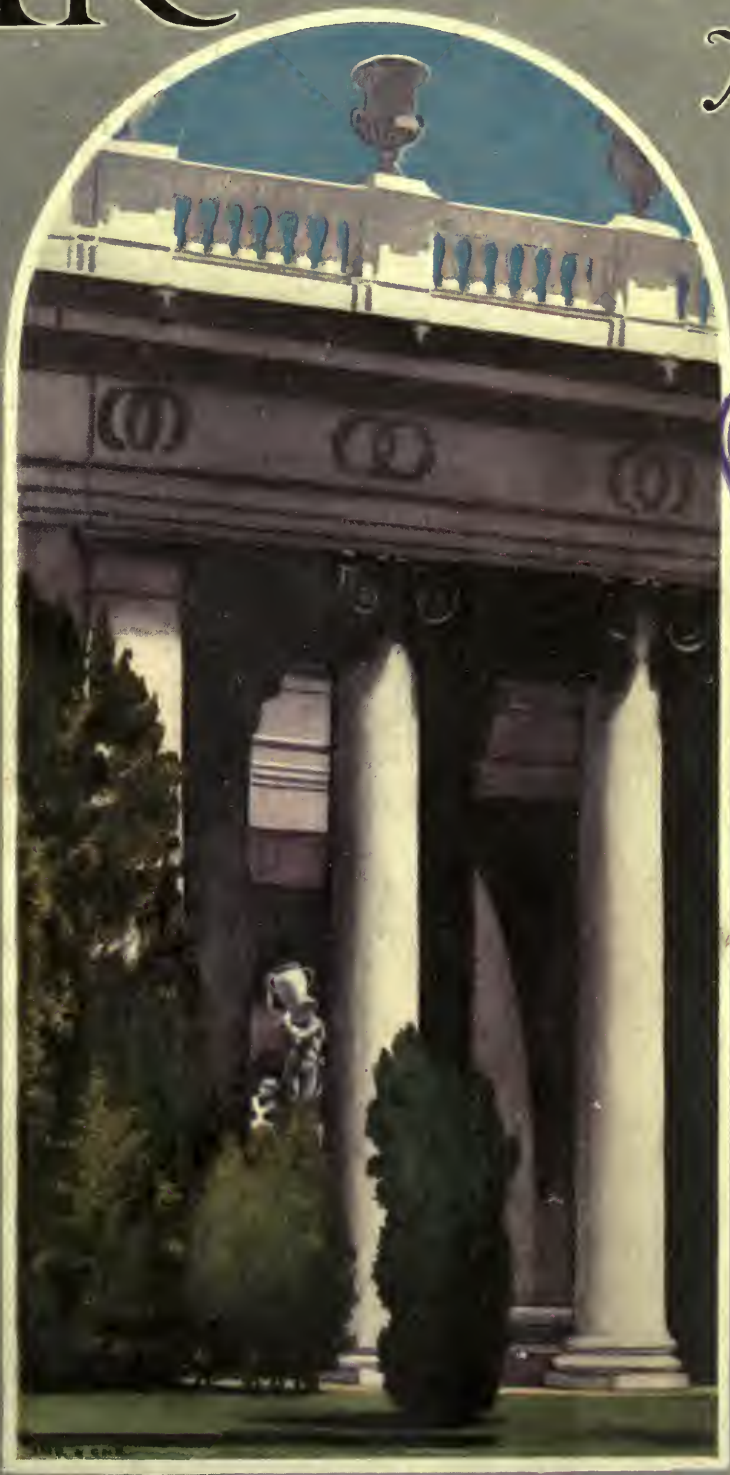
"It is time he is granted a polite hearing on all questions relating to his work, but is time accorded to him to educate his clients to the degree necessary to comprehend his arguments? Is he himself master of the theory of his art, and trained to debate these questions? Can he, if personally able to do so, impart to a client in a reasonable series of conversations what can be acquired only by a long professional education and practice?"

Quite obviously, as Eidlitz concludes, he cannot always do so. In fact, he argues, that the architect in competition submits to laymen "a design of what he intends to do, and thereby admits, what is utterly false, that laymen are competent to compare a series of such designs, and select the best, or that they can form a correct judgment of any one of them."

Naturally, the conclusion is that so long as this system is followed "architecture must range with the fashions" and not with the arts.

# The ARCHITECTVRAL RECORD

March
1915

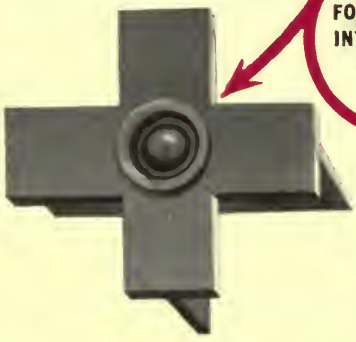


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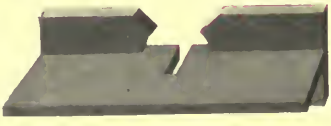
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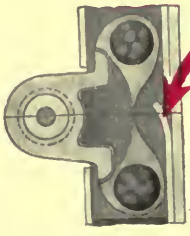




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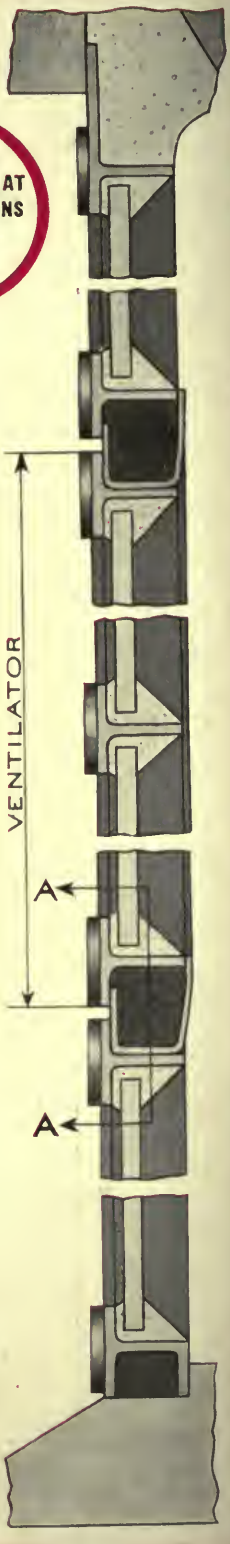
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# THE ARCHITECTVRAL RECORD

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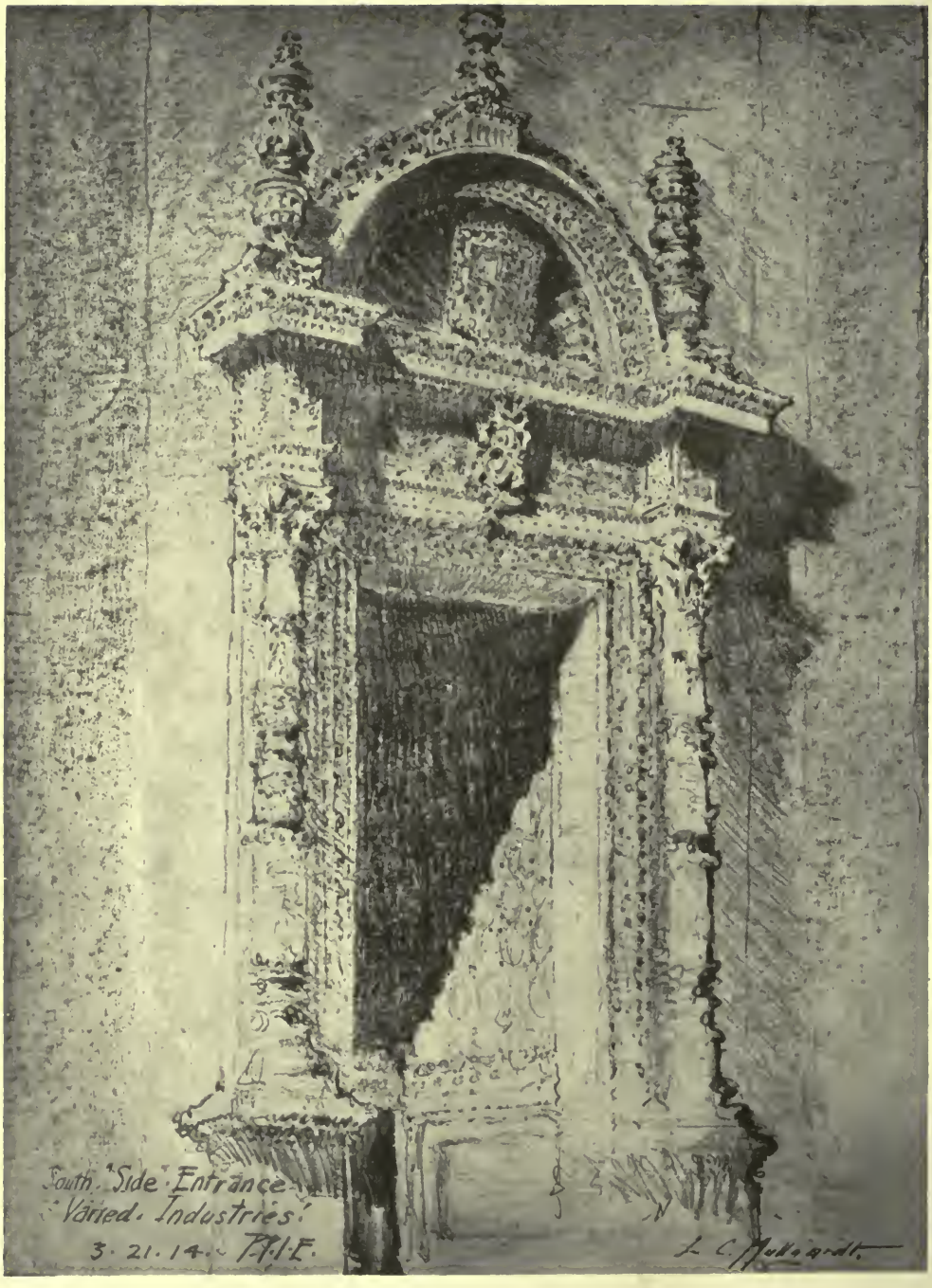
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SIDE AISLE ENTRANCE TO PALACE OF VARIED INDUSTRIES—PANAMA-PACIFIC EXPOSITION. BLISS & FAVILLE, ARCHITECTS.

# THE ARCHITECTVRAL RECORD

MARCH, 1915

VOLVME XXXVII NVMBER III


## The PANAMA—PACIFIC EXPOSITION AT SAN FRANCISCO

*By Louis C. Mullgardt*

INTERNATIONAL expositions are invariably founded on historical events of great importance to nations. Philadelphia's Exposition in 1876 celebrated the one hundredth anniversary of the founding of the Republic. Chicago's Exposition in 1892 celebrated the four hundredth anniversary of the discovery of America. St. Louis's Exposition in 1904 celebrated the one hundredth anniversary of the purchase of the Louisiana Territory from Spain.

All of the foregoing celebrations were related to past epochs. San Francisco's Exposition celebrates the beginning of a new epoch following the advent of the greatest engineering accomplishment in history. It celebrates the first establishment of a direct belt connection between the Atlantic and Pacific Oceans, whereby a passage by water, through the middle of the Western Hemisphere, near the line of the Equator, is secured for all time and all peoples. It celebrates the advent of an entirely new around-the-world route and a direct system of intercommunication between nations. It is the road which leads to a better understanding and makes for enduring peace, world progress and amity between nations.

Fulfillment of San Francisco's laudable desire to hold this international exposition was made possible only through a vigorous fight waged in Washington for a period of six months or more with its worthy Southern opponent, New Orleans. It is fair to assume that San Francisco's success was largely due to added valor acquired through surmounting the desponding trials of devastation by fire in 1906, only five years prior to launching the herculean task of raising the sinews necessary for this international exposition, amounting to seventeen million dollars. This amount was subscribed in a remarkably short time

within the State of California and without the customary governmental assistance accorded previous international expositions.

The principal feature of the Philadelphia Exposition was its Crystal Palace. Chicago similarly had its wonderful Court of Honor, quadrangular in shape, formed by the surrounding exhibit palaces. St. Louis's monumental feature was the great Cascade surmounted by Festival Hall. San Francisco's Exposition is mainly distinctive in its general plan.

Unlike other expositions, the simple plan of housing the department exhibits has been accomplished in a manner that seems commonplace when compared with the planning of a residential palace that is surrounded with gardens, arborium, music pavilion, galleries, play yards and visitors' cottages.

The eight centrally grouped palaces—Education, Food Products, Agriculture, Liberal Arts, Manufacture, Transportation, Mines and Metallurgy, and Varied Industries — including the main tower, the courts and the connecting longitudinal and lateral avenues, together form a homogeneous unit as compact and correlated as are the various departments of a residential palace.

The east and west terminations of this colossal unit are flanked by Machinery Hall and the Palace of Fine Arts, and the secondary lateral axes point to Festival Hall and the Palace of Horticulture.

These twelve subdivisions constitute the principal housed exhibit departments. The departments of Foreign Countries, the States, Aviation and Military Maneuvering Fields, the Race Course and Live Stock Barns are beyond the extreme west end of the principal exhibit palaces. The amusement section is at the extreme east end. The exposition palaces form the central link which connects all sections together continuously.

The ideal, fascinating site which the exposition occupies has had the greatest influence in the development of the general plan—the great feature of this exposition.

It is well worth noting that the selection of this harbor view site caused the inhabitants of San Francisco all the anguish that self-constituted factions within an energetic community could produce and encounter. Lake Merced, Golden Gate Park, Lincoln Park, the Water Front and Harbor View each had enthusiastic adherents and opponents.

Chicago wisely placed its exposition in the undeveloped and uncultivated lake shore sands of Jackson Park, which subsequently became a great garden playground of the people.

St. Louis unwisely placed its exposition in highly cultivated Forest Park, thereby causing the destruction of years of natural growth and cultivated park land, now and forever wasted. St. Louis made the additional mistake of placing a permanent Gallery of Fine Arts in Forest Park, where it is about as inaccessible to the people as if it were of primary importance to have it so.

San Francisco narrowly escaped making a similar mistake by destroying its renowned Golden Gate Park, which has taken forty years to develop out of windswept sand dunes.

Golden Gate Park was seemingly the one glorious spot in the city and county of San Francisco upon which the majority of the public had its eye focused as the most suitable of all sites for the exposition. Had it not been for the wisdom and sagacity exercised by those who were empowered to conduct the selection of a site along safer and saner channels, San Francisco would now have an exposition where Golden Gate Park is, but it would no longer have Golden Gate Park.

The natural geographical condition of the undeveloped site so wisely selected may be better understood by referring to the accompanying illustrations. The major portion of the site where the great palaces now stand was inundated with salt water about twenty-five feet in depth. This artificial lake was separated from the Bay of San Francisco by a substantial sea wall built of riprap and old building stones discarded from buildings destroyed in the fire of 1906. East Lake was filled by means of pumping dredgers, which did service for several months pumping silt from the bay whilst

the architects and engineers were engaged in the preparation of working drawings and the landscape engineer established the location of his stock of trees and plants throughout the State preparatory to subsequent shipment when required in accordance with the landscape plans prepared by the architects.

The Director of Works was the first official appointed by the President of the Exposition to provide for the physical construction.

In the fall of 1911 the President of the Exposition requested the San Francisco Chapter of the American Institute of Architects to submit a list of twelve names chosen from its ranks. From this list the President of the Exposition agreed, with certain reservation, to elect five architects to constitute a council. About one month after the first Architectural Council had been appointed three of its five members resigned. In January, 1912, three additional San Francisco architects were chosen, this time without reference to the chapter, also three architects from New York City. Subsequently one additional architect from Los Angeles was selected; these nine architects constituted the permanent Architectural Commission.

An architectural drafting department was immediately established in the downtown exposition office building, where preliminary planning was carried on under the guidance of members of the Architectural Commission with the primary object of developing the best general plan obtainable. Daily conferences were held by the commission for the purpose of analyzing every conceivable scheme which might lead to a correct solution of the general plan. Every previous exposition plan was made the subject of special inquiry by the commission. These daily meetings also provided for many conferences with the local heads of the Government Weather Bureau; with the Government military officials in charge of the Presidio and Fort Mason, lying to the west and east ends, as to manner and extent permissible when infringing upon their convenience; with the landscape gardener as to maximum possibilities in securing suitable trees and plants such as would and would not withstand the rigors of the trade winds; with the transportation officials in reference to establishing prompt new facilities for shipment of materials to the premises and rapid passenger transportation by land and by water; and finally, with the State harbor officials relative to tides and currents—it had at one time been considered wise to establish a more extensive still water basin along the water front of the exposition grounds for smaller craft than was finally agreed upon.

The Architectural Commission carefully tabulated all available data on every subject affecting the general plan. Every conceivable scheme was drawn out by the draftsmen and analyzed by the commission. This process continued until the date set for the first conference of the entire Architectural Commission, in February, 1912. After a week's conference the present court plan was enthusiastically adopted by the Architectural Commission. Immediately thereafter various parts constituting the central body of the exposition plan were assigned to the individual members of the commission by unanimous agreement of its members.

At the second meeting of the Architectural Commission, in August, 1912, preliminary studies were submitted by all the members, each dealing with the particular part of the general plan assigned at the February conference.

In December, 1912, the third and final meeting of the entire commission took place to consider and adopt the preliminary drawings made on the basis of understandings had at the previous conferences. Immediately thereafter the Board of Directors of the Panama-Pacific International Exposition unanimously adopted the recommendations and designs submitted to it by the Architectural Commission with authority to proceed with the working drawings. Shortly thereafter a contract was entered into for the filling and grading preparatory for the pile foundations required, over eighty per cent. of the entire area covered by the exposition palaces.

Almost simultaneously with the working drawings the construction drawings



PLAN OF EXPOSITION GROUNDS, SHOWING THE RELATION BETWEEN THE

were prepared. The timber floor substructures and underfloors were placed upon the piles before the superstructures were erected.

The chiefs of the Sculpture Department, Department of Color and Decoration and Landscape Engineering were selected by the Architectural Commission at its second meeting and attended its conferences and collaborated with it constantly.

At the third meeting of the Architectural Commission the Department of Travertine Texture was established The Architectural Commission thereby created a new element in exposition designing. This element of texture has given an added interest in the final result which is invaluable to an exposition and will forever be regarded indispensable in similar work.

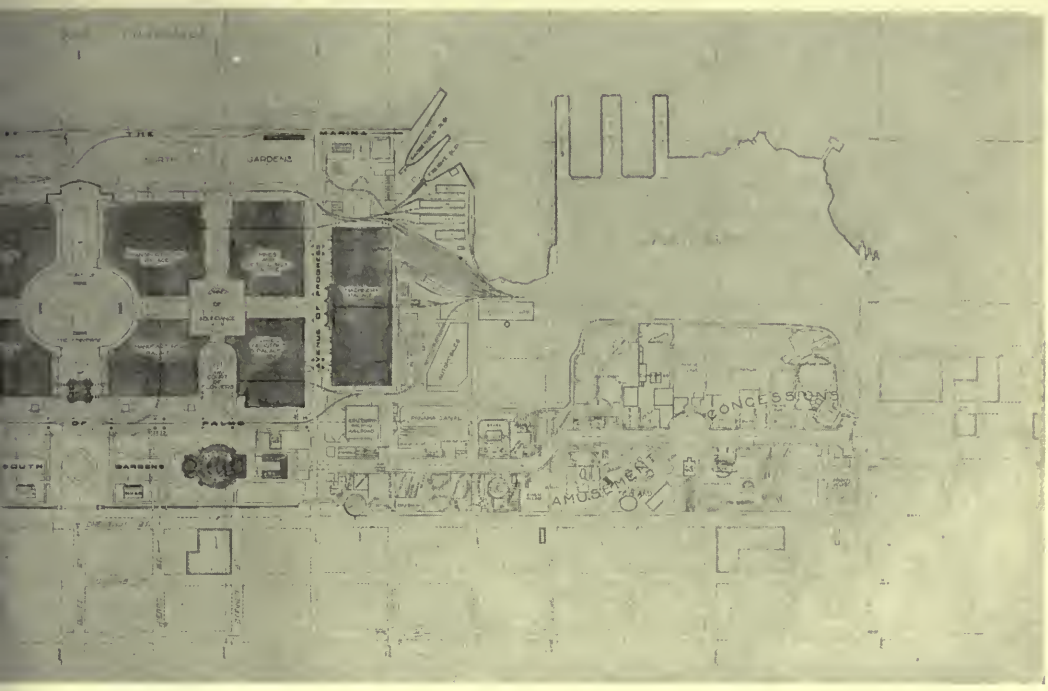
The filling and grading, piling and foundations, sewers and drains, tracks and roadways, ferry slips and piers, enclosures and workshops, exhibit palaces and courts were separately contracted for between the Division of Works and private contracting concerns.

For the convenience of the contractors, also to facilitate the work and for economic reasons, the Exposition Company assumed the purchase of all dimension lumber and plastic material direct from the forests and mills, and delivered the same on the grounds to the contractors by water and by rail at minimum cost.

The roadways and walks are built of asphaltum on a broken stone and gravel foundation.

Extensive railroad yards for the delivery of building materials and exhibits were provided at the east end of the exposition grounds. Under Fort Mason the first tunnel was constructed expressly for the purpose of establishing direct railway facilities into the exposition grounds. Three parallel lines were laid longitudinally alongside and others through the palaces so that railway shipments are made to the nearest points of delivery.

Visitors to the exposition grounds have for the past year been afforded the convenience of public and private automobile service over the main avenues of the exposition grounds. Similar service




RIES OF THE EXPOSITION AND THE ADJACENT STREETS OF SAN FRANCISCO.

will be established throughout the exposition year. An intermural system along the water front has also been established. In addition to this there will be wheel chairs, jinrikishas and other similar small conveyances to enable visitors to traverse every part of the grounds and palaces on wheels.

Ferry slips have been established near the north end of Machinery Palace. The protected bay inlet north of the Fine Arts Building is designed for smaller pleasure craft. People residing along the shores of San Francisco Bay may approach the exposition direct by water.

Special electric street car facilities have been established by the City of San Francisco along the south line of the exposition grounds, with tributaries leading from the west, south and east ends of the city. The exposition being situated centrally on the north shore line and within twenty minutes' walk of the business centers, makes it accessible to the greatest number of probable visitors.

Its location affords voyagers by sea coming from the Orient or from north, south or through the Panama Canal, a first view from aboard ship, after coming through the Golden Gate.

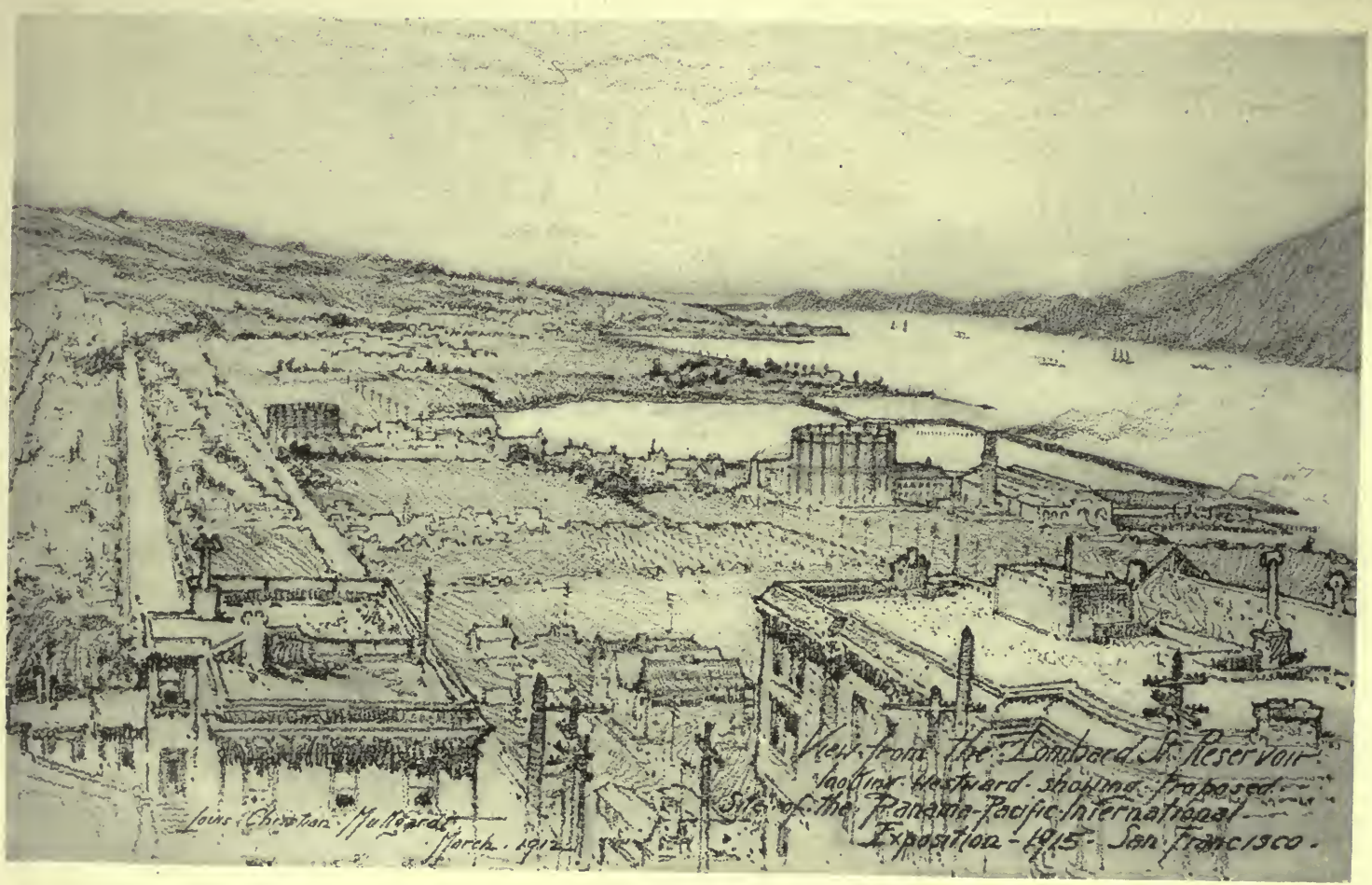
A permanent Auditorium has been built in the New Civic Center, costing one million dollars. This money was appropriated out of the five million dollars subscribed by the City of San Francisco to the exposition general fund. This Auditorium has a seating capacity of twelve thousand and is complete and inaugurated.

The artificial lighting of the exposition is largely concealed. There will be no electric bulbs visible within the area occupied by the exposition palaces. Electric scintillators will be extensively used.

The total area occupied by the exposition consists of flat land. The built up hills of the city form a crescent background from east to west, establishing an amphitheatre facing the bay. The entire composition is visible from the hilltops and from the water. It is within easy walking distance of the most thickly populated surrounding hills, which in their blue-grey atmosphere give added luster and scale to the colorful composition.



SKETCH OF THE EXPOSITION GROUNDS,
MARCH, 1913, SHOWING ONE YEAR'S PROGRESS.




EXPOSITION GROUNDS, MARCH, 1912, BEFORE THE FILLING OF EAST LAKE. BEHIND THE LARGE GAS TANK, WAS BEGUN. TO THE RIGHT IS THE BAY OF SAN FRANCISCO; TO THE WEST, THE GOVERNMENT MILITARY RESERVATION. THE GOLDEN GATE AND THE PACIFIC OCEAN ARE BEYOND.



SKETCH OF THE CONSTRUCTION FOR THE CENTRAL DOME OF THE PALACE OF FINE ARTS, APRIL, 1914. DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. BERNARD MAYBECK, ARCHITECT.




AEROPLANE VIEW FROM THE NORTHWEST. PHOTOGRAPHED BY GABRIEL MOULIN, DECEMBER, 1914.



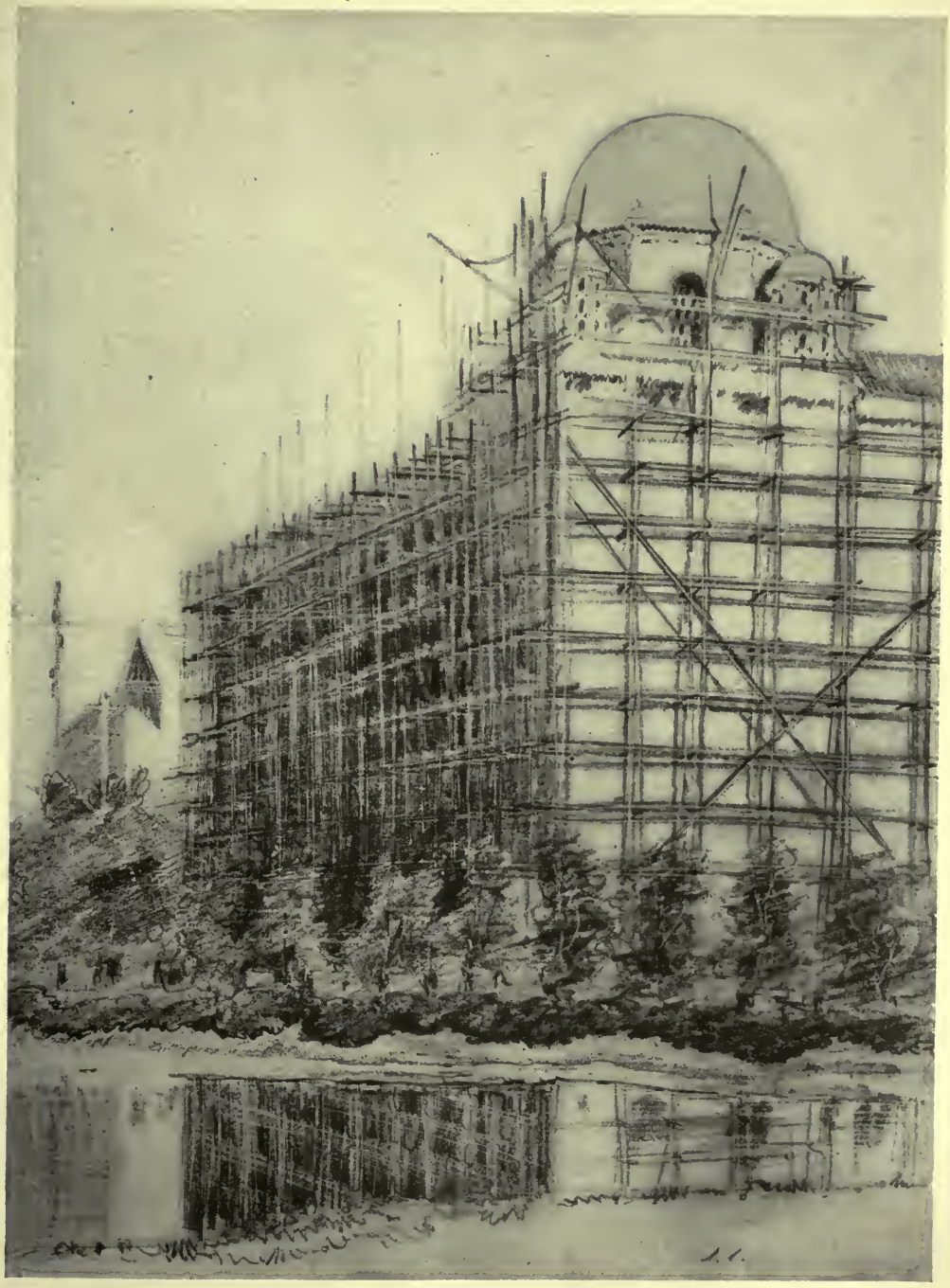
VIEW OF THE CENTRAL DOME OF THE PALACE OF FINE ARTS AS IT APPEARED IN DECEMBER, 1914. BERNARD MAYBECK, ARCHITECT.



THE PERISTYLE TO THE LEFT OF THE CENTRAL DOME OF THE PALACE OF FINE ARTS. BERNARD MAYBECK, ARCHITECT. PHOTOGRAPHED AT NIGHT BY FRANCIS BRUGUIERE, DECEMBER, 1914.



SKETCH OF THE WEST END AND TYPICAL DOME OF THE PALACE OF EDUCATION, FEBRUARY, 1914, BEFORE SCAFFOLDING WAS REMOVED. BLISS & FAVILLE, ARCHITECTS.



SKETCH OF TYPICAL CORNER PAVILION AND PERIMETER WALLS OF THE PALACE OF EDUCATION, MARCH 1914, BEFORE SCAFFOLDING WAS REMOVED. THE MINIMUM HEIGHT OF ALL EXPOSITION WALLS IS SIXTY-FIVE FEET. BLISS & FAVILLE, ARCHITECTS.



THE COURT OF PALMS, GEORGE W. KELHAM, ARCHITECT, WITH THE PALACE OF HORTICULTURE TO THE SOUTH, BAKEWELL & BROWN, ARCHITECTS.



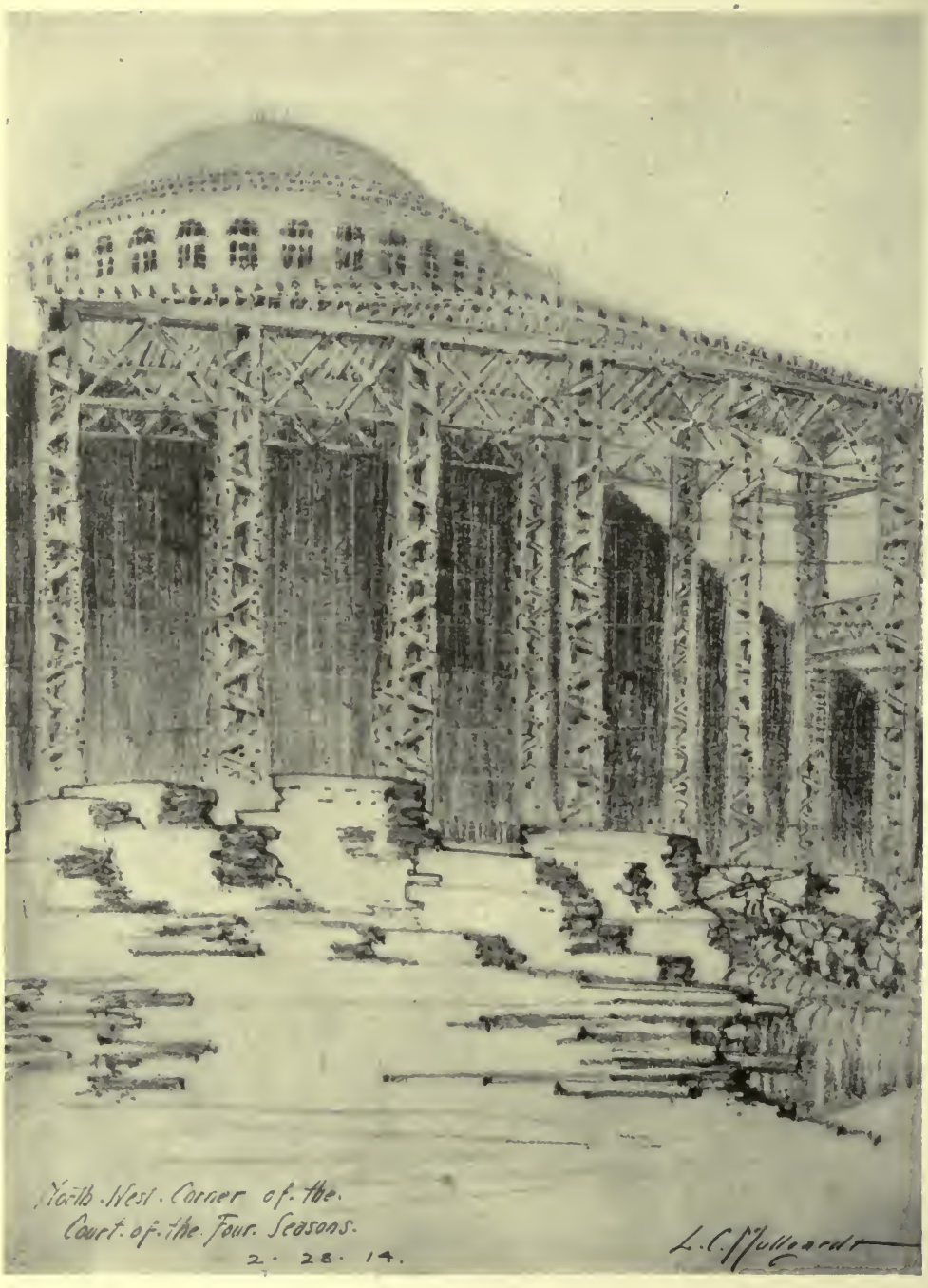
SKETCH OF PRELIMINARY CONSTRUCTION AROUND THE COURT OF PALMS, MARCH, 1914. DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. GEORGE W. KELHAM, ARCHITECT.



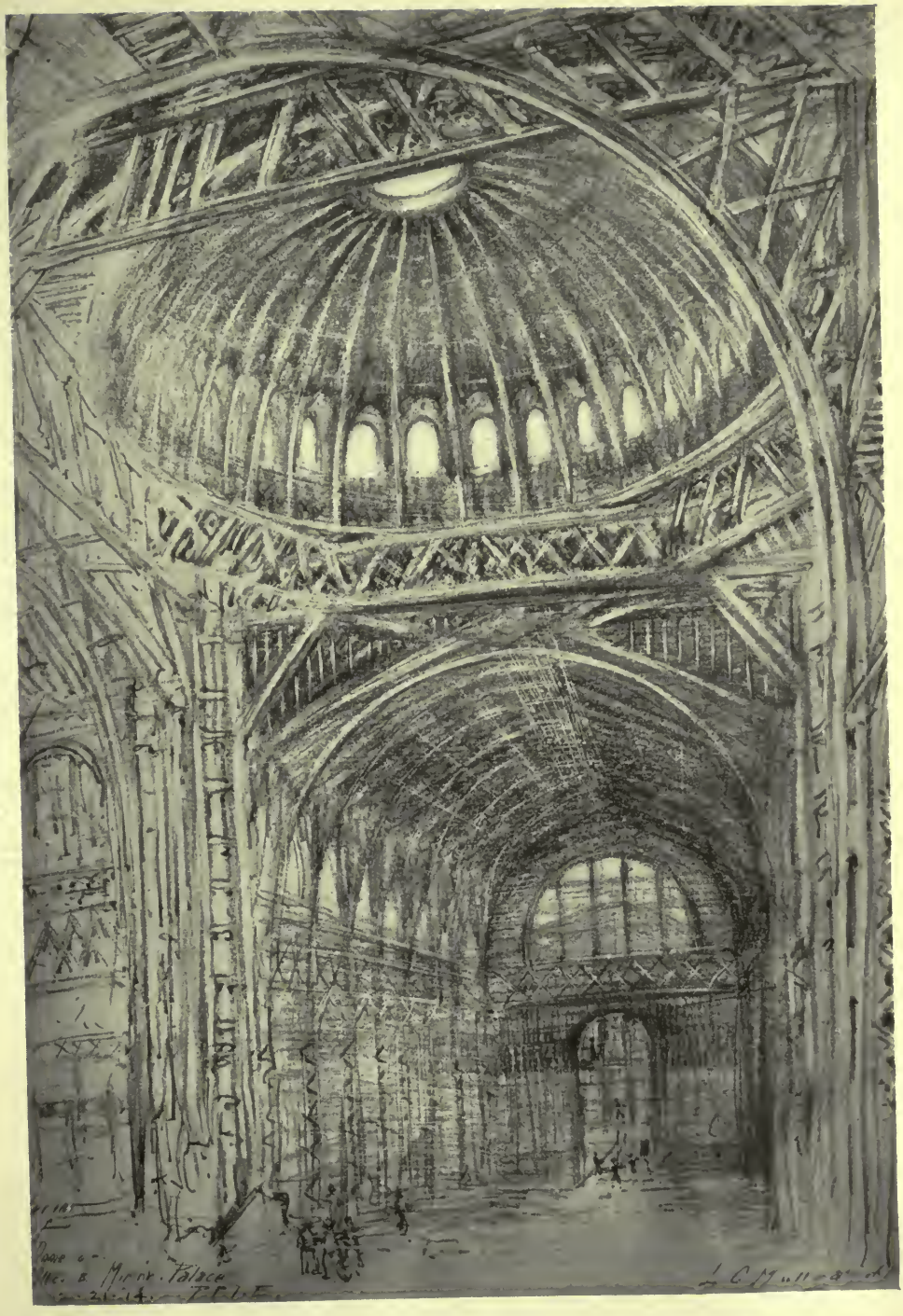
THE GREAT NICHE, OVER ONE HUNDRED FEET HIGH, AT THE SOUTH END OF THE OCTAGONAL COURT OF FOUR SEASONS AND FLANKED BY ALCOVES BACK OF PERISTYLES CONTAINING STATUES SYMBOLIZING THE SEASONS. HENRY BACON, ARCHITECT.



COURT OF FOUR SEASONS ACROSS CIRCULAR POOL LOOKING NORTH TOWARD THE BAY OF SAN FRANCISCO. HENRY BACON, ARCHITECT. THE AVERAGE GRADE OF THE EXPOSITION IS ONLY FIVE FEET ABOVE THE MEAN SEA LEVEL. A PERFECT VIEW OF SHIPS PASSING THE LOWER END OF THIS COURT IS OBTAINED. BEYOND ARE THE MARIN COUNTY HILLS, AVERAGING OVER 1000 FEET IN HEIGHT.




SKETCH SHOWING CONSTRUCTION IN THE NORTHWEST CORNER OF THE COURT OF FOUR SEASONS, FEBRUARY, 1914. DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. HENRY BACON, ARCHITECT. DOME OF THE PALACE OF FOOD PRODUCTS IN THE DISTANCE. BLISS & FAVILLE, ARCHITECTS.



SKETCH OF TYPICAL INTERIOR CONSTRUCTION OF THE EIGHT DOMES AS DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. BLISS & FAVILLE, ARCHITECTS.



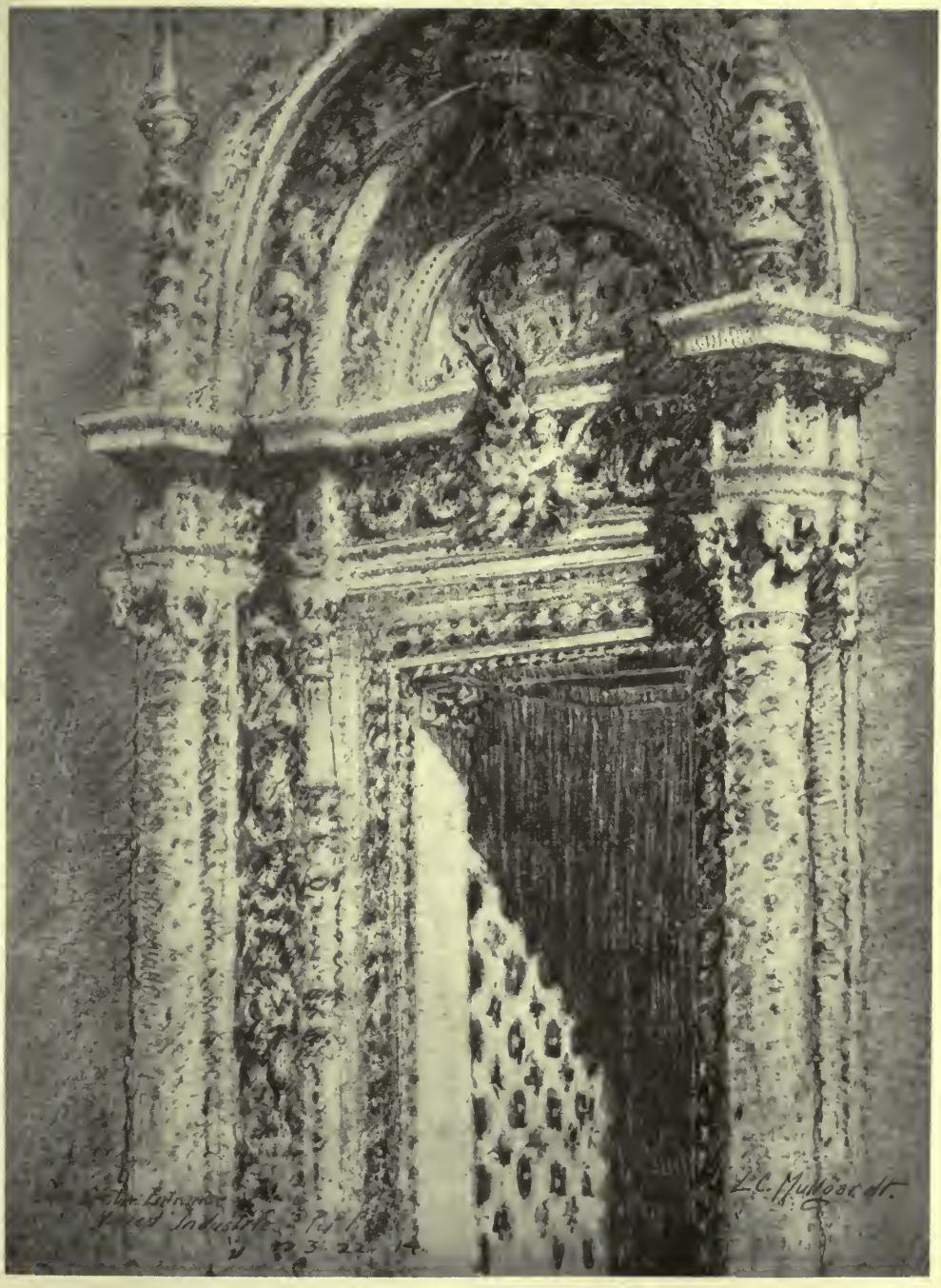
VIEW FROM DOME OF FESTIVAL HALL, SHOWING TOWER OF JEWELS IN RELATION TO EXPOSITION PALACES AND SOUTH GARDENS. PHOTOGRAPHED NOVEMBER, 1914, BEFORE SCAFFOLDING WAS REMOVED. CARRÈRE & HASTINGS, ARCHITECTS.



ARCH OF THE WEST, IN THE COURT OF THE UNIVERSE. THIS COURT IS OVAL IN PLAN AND HAS AN AVENUE FLANKED BY A COLONNADE REACHING TO THE BAY, SIMILAR TO THE TWO OTHER INTERIOR COURTS. PHOTOGRAPHED DECEMBER, 1914. McKIM, MEAD & WHITE, ARCHITECTS.



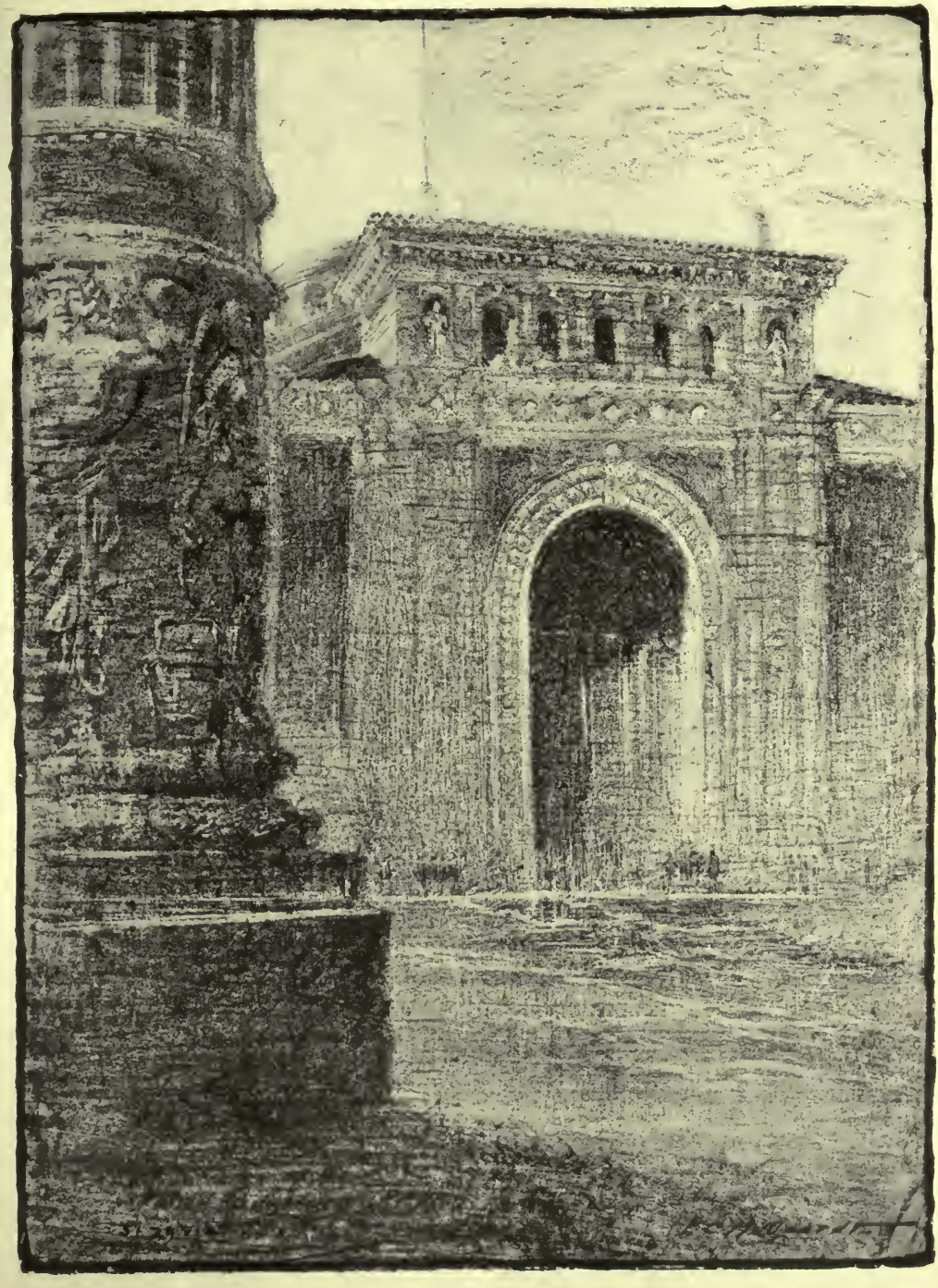
NIGHT SCENE SHOWING SOUTHEAST CORNER PAVILION IN COURT OF THE UNIVERSE, AS SEEN BETWEEN THE SCAFFOLDING OF THE GREAT ARCH OF THE TOWER OF JEWELS. PHOTOGRAPHED DECEMBER, 1914, BY FRANCIS BRUGUIERE. McKIM, MEAD & WHITE, ARCHITECTS.



SKETCH OF CENTRAL SOUTH ENTRANCE TO PALACE OF VARIED INDUSTRIES, MARCH, 1914. BLISS & FAVILLE, ARCHITECTS.



TYPICAL NORTH ENTRANCES OF THE PALACES OF FOOD PRODUCTS, AGRICULTURE, TRANSPORTATION AND MINES AND METALLURGY. PHOTOGRAPHED NOVEMBER, 1914. BLISS & FAVILLE, ARCHITECTS.



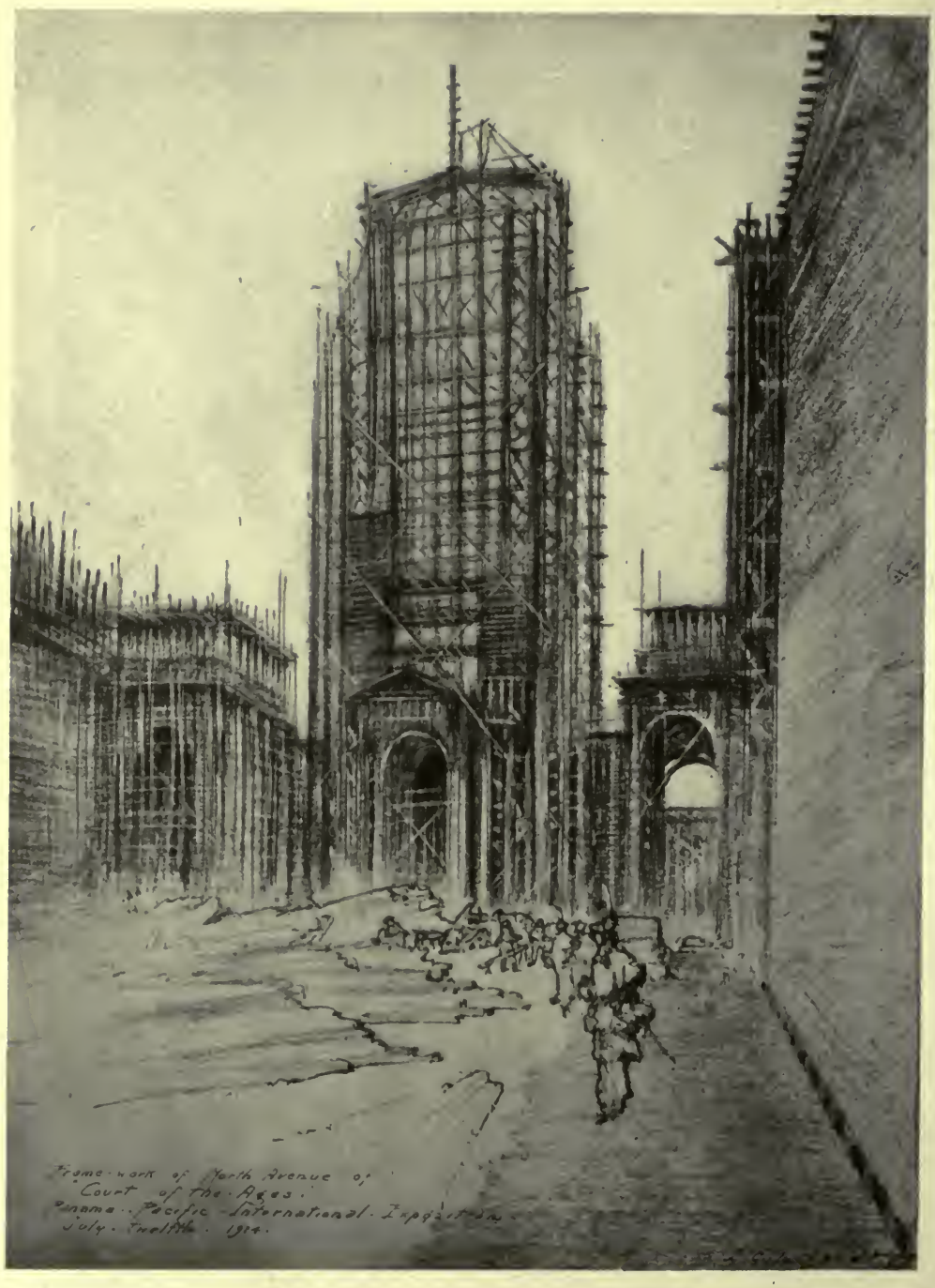
SKETCH OF EAST ENTRANCE TO PALACE OF VARIED INDUSTRIES ON A RAINY DAY, MARCH, 1914. BLISS & FAVILLE, ARCHITECTS.



AVENUE OF PALMS LOOKING SOUTH, SHOWING WALL AND ENTRANCES TO THE PALACE OF VARIED INDUSTRIES IN THE FOREGROUND. BLISS & FAVILLE, ARCHITECTS. TOWERS FLANKING COURT OF FLOWERS AND COURT OF PALMS. GEORGE W. KELHAM, ARCHITECT. TOWER OF JEWELS, CARRERE & HASTINGS, ARCHITECTS. TRANSPLANTING OF PALMS AND OTHER GROWTH, JOHN McLAREN, LANDSCAPE ENGINEER. PHOTOGRAPHED DECEMBER, 1914.



COLONNADE AND UPPER LOGGIAS OF THE COURT OF FLOWERS.
GEORGE W. KELHAM, ARCHITECT. PHOTOGRAPHED DECEMBER, 1914.




SKETCH SHOWING FRAMEWORK OF NORTH AVENUE OF THE COURT OF ABUNDANCE. DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. LOUIS CHRISTIAN MULLGARDT, ARCHITECT.



SOUTHWEST VIEW OF CHIMES TOWER OF THE COURT OF ABUNDANCE. LOUIS CHRISTIAN MULLGARDT, ARCHITECT.



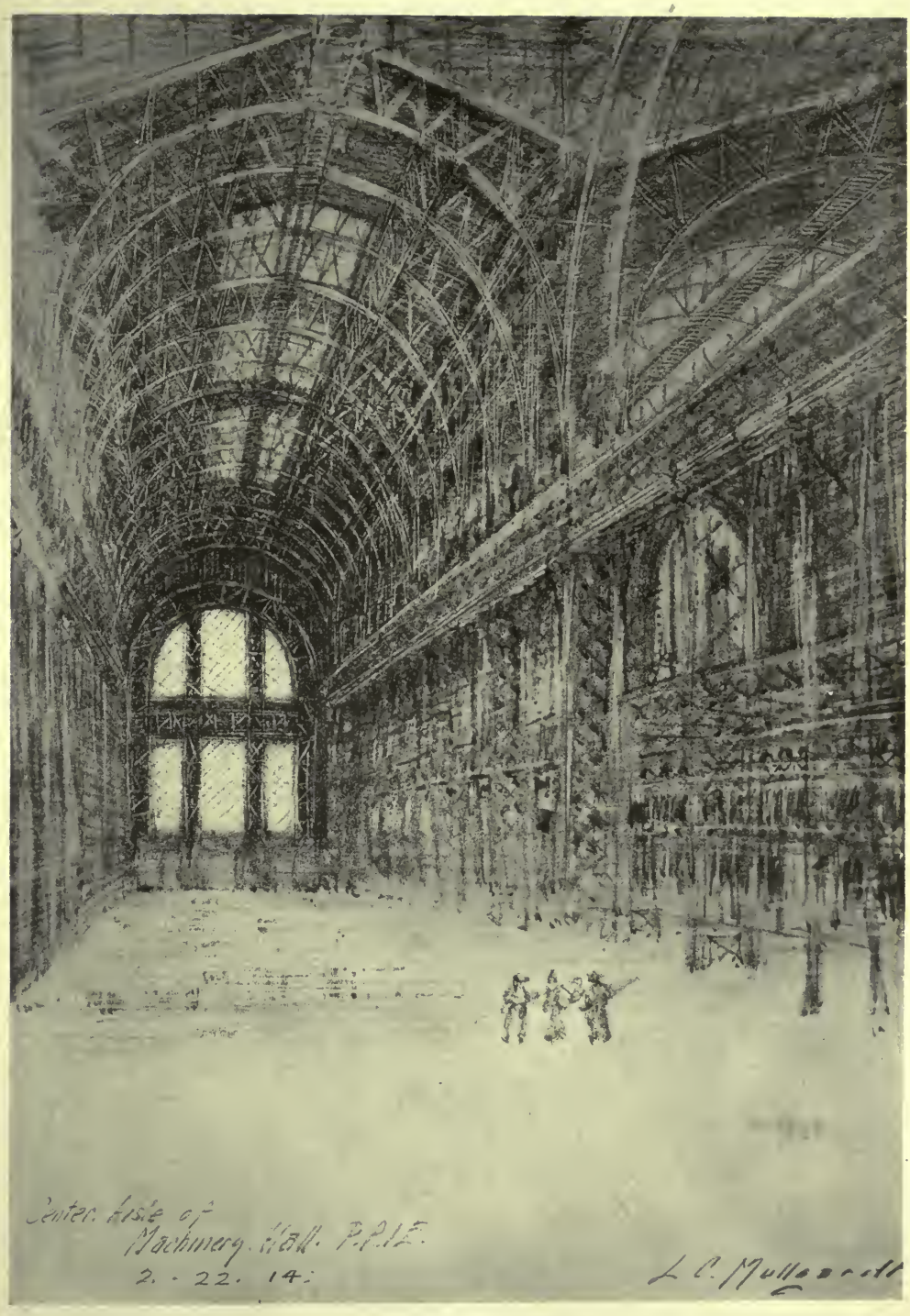
VIEW OF CLOISTER, COURT OF ABUNDANCE.
LOUIS CHRISTIAN MULLGARDT, ARCHITECT.



VIEW OF PALACE OF HORTICULTURE, DECEMBER, 1914. BAKEWELL & BROWN, ARCHITECTS.



FESTIVAL HALL, AS SEEN FROM THE NORTH-WEST. ROBERT DAVID FARQUHAR, ARCHITECT.




SKETCH SHOWING INTERIOR CONSTRUCTION OF PALACE OF MACHINERY, FEBRUARY, 1914. DESIGNED BY THE ENGINEERING DEPARTMENT OF THE PANAMA-PACIFIC EXPOSITION. WARD & BLOHM, ARCHITECTS.



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CENTRAL PORTION OF THE WEST FACADE OF THE PALACE OF MACHINERY. WARD & BLOHM, ARCHITECTS.



PALACE OF VARIED INDUSTRIES, AS SEEN FROM THE SOUTH GARDENS—PANAMA-PACIFIC EXPOSITION. ONE OF EIGHT EXHIBIT BUILDINGS FORMING A RECTANGLE, OF WHICH FOUR FACE SAN FRANCISCO HARBOR AND FOUR FACE THE SOUTH GARDENS.



A CORNER PAVILION IN THE COURT OF THE UNIVERSE — PANAMA-PACIFIC EXPOSITION. McKIM, MEAD & WHITE, ARCHITECTS.



# FOVR DRAWINGS OF THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION

*By*

JACK MANLEY ROSÉ

J R

ARCH OF THE
RISING SUN





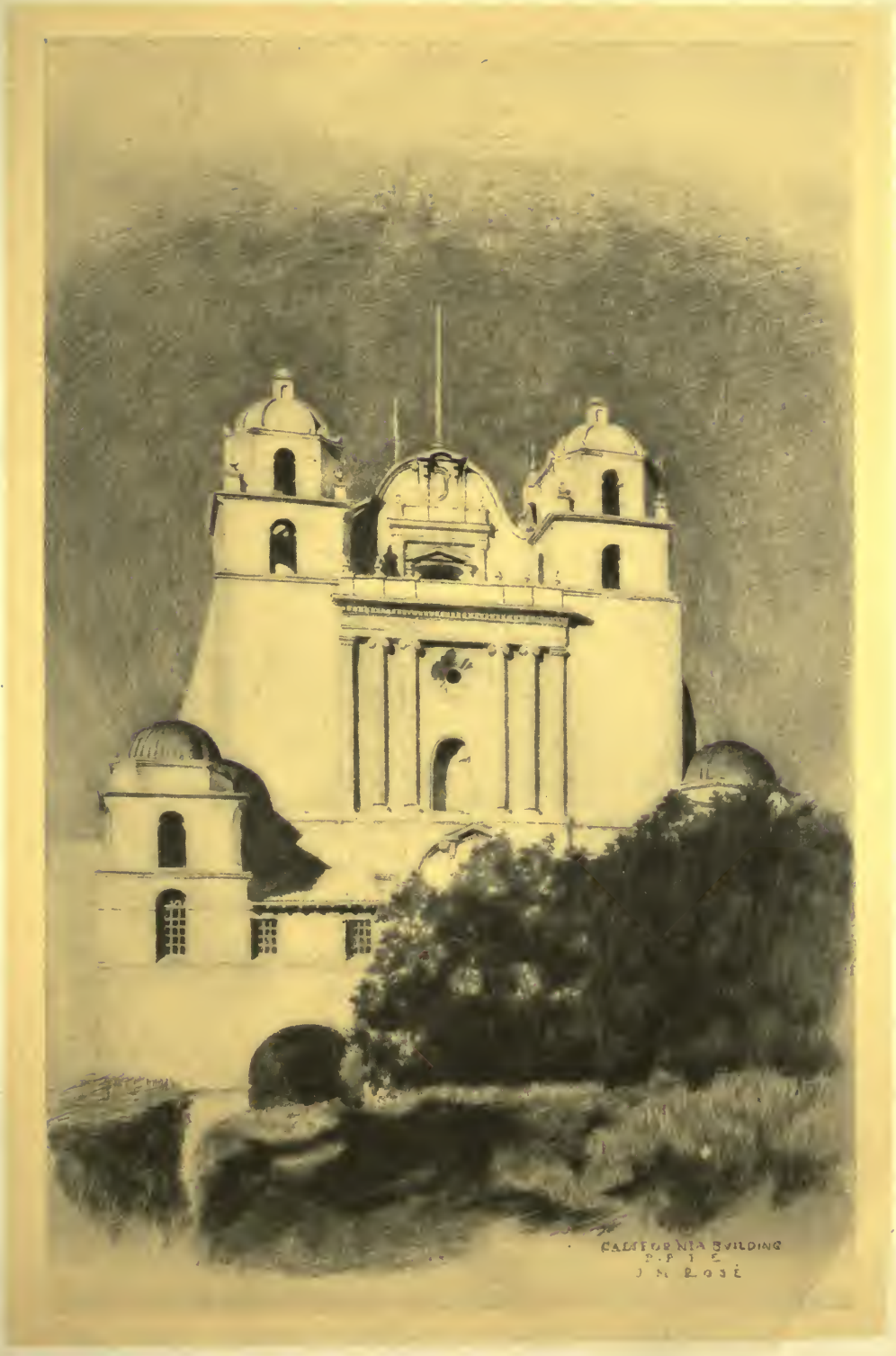
PORTION OF THE COURT OF
FOUR SEASONS




PORTION OF
THE COURT OF
FOUR SEASONS
PAIL
J M ROSE

# THE CALIFORNIA BUILDING




CALIFORNIA BUILDING
P. P. I. E.
J. M. ROSE



# TRINITY LVTHERAN CHVRCH
## AKRON, OHIO
## J W·C CORBVSIER, ARCHITECT

*By I T Frary*

THE congregation of the Trinity Lutheran Church of Akron, Ohio, a congregation of moderate size, found itself under the necessity of providing a new place of worship; and having decided, by means of a competition, upon an architect whose ideas seemed in accord with its own, gave him a free hand to develop an edifice suited to its needs and to the requirements of the ritual of the Lutheran Church.

The architect chosen was Mr. J. W. C. Corbusier, then of the firm of Page and Corbusier, but now practicing alone. Mr. Corbusier received his architectural training in the ateliers of Paris and the offices of New York, yet he was never mastered by the spirit of Classicism with which he was surrounded; instead there gripped him an almost religious zeal for the traditions of the Gothic period. The bulk of his professional work, however, has been, as it were by the irony of fate, carried out along Classic lines, a fact that has served to intensify the ardor with which he has undertaken ecclesiastical commissions.

In the case of the Trinity Lutheran Church, he saw an opportunity to demonstrate the feasibility of building a small church edifice adapted to present-day requirements, but possessing the dignity and churchly feeling peculiar to the great Gothic structures of the past. With this idea in mind he personally designed and superintended the entire structure.

As the plans grew, the appreciation of the people grew also and the finished structure embodies a completeness of equipment far beyond the original plans. This increase did not mean the addition of unnecessary enrichment and useless accessories. It simply meant raising the standard of quality in materials and workmanship and the introduction of features whose omission would probably mean expensive alterations later. The only point on which a captious critic might find fault would be with the use of artificial instead of cut stone. This question was not decided, however, until after thorough tests had been made of the materials, which demonstrated that the artificial was harder and more impervious to moisture than the natural product. The consequent saving in cost made possible the use of tracery and ornamental detail to an extent which would otherwise have been out of the question. An excellent modeller, working in accord with and under the constant supervision of the architect, succeeded in producing a sympathetic quality in the detail which one expects to find only in structures which have been mellowed by time. The intangible refinements found in the old work have been studied so carefully and the more evident factors of proportion and massing have been handled so skillfully that, despite its actual newness and smallness, the church possesses to an unusual degree the air of dignity, repose and age which constitute the charm of the Gothic cathedrals.

The front conveys a satisfying impression of massiveness and delicacy. The great buttresses which flank the doorway melt upward into twin towers and produce a fine sense of unity and stability. The severity of their dark brickwork is softened by contrast with the light stone trimmings and they frame in, like a picture, the grouping of portal and windows for whose delicate lace-like detail they form an excellent foil. Crowning all and pulling the composition together, the rich, light detail of turrets



REAR VIEW—TRINITY LUTHERAN CHURCH, AKRON, OHIO.
J. W. C. Corbusier, Architect.

and gable lends an air of exquisite delicacy to the whole.

The brick used is dark and irregular in color, rough in texture, and has much the effect of that found in the fifteenth century houses of England. The stonework has the warm grey tone of Bedford limestone.

The ground upon which the building stands slopes downward from the front. At the extreme back an archway on the lower level gives access to an open cloister leading to the Sunday School wing, which forms an L with the main block and walls in the back of the level lot, which may at some future time become a cloister garth, but which at present is occupied by an old residence utilized as the parsonage.

Passing through the front doorway, whose detail merits study, one enters the narthex, which is enclosed by a rich oak screen of open glazed tracery and carries above it a gallery. At the right a portion of this space is partitioned off for a processional room, which is connected by a winding stairway with the robing room in the basement. In the processional room is a small organ and up in the tower, well above the gallery level, the echo organ speaks through a lancet opening in the front wall. The narthex, with its low, dark beamed ceiling, emphasizes the lightness of the soaring, clustered columns and the vaulted ceiling of the nave. This contrast produces a startling effect of height and spaciousness, which is enhanced by the rich light from the truly remarkable glass which is rapidly taking the place of temporary glazing. Shallow transepts also tend to increase the effect of spaciousness.

The transepts are occupied by galleries, open below, but otherwise having practically the same detail as the one above the narthex. The warm dark color of the oak woodwork gives a pleasing contrast to the grey of walls and masonry, while a restrained use of gold and color adds a desirable accent. Tracery is much in evidence throughout the woodwork, but otherwise carving has been used sparingly, chiefly in the form of symbolic



TRINITY LUTHERAN CHURCH.
AKRON, OHIO. J. W. C.
CORBUSIER, ARCHITECT.



SIDE VIEW—TRINITY LUTHERAN CHURCH, AKRON, OHIO. J. W. C. CORBUSIER, ARCHITECT.



NARTHEX SIDE ENTRANCE—TRINITY LUTHERAN CHURCH, AKRON, OHIO. J. W. C. CORBUSIER, ARCHITECT.



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LOOKING TOWARD SUNDAY SCHOOL ENTRANCE—TRINITY LUTHERAN CHURCH, AKRON, OHIO.
J. W. C. Corbusier, Architect.

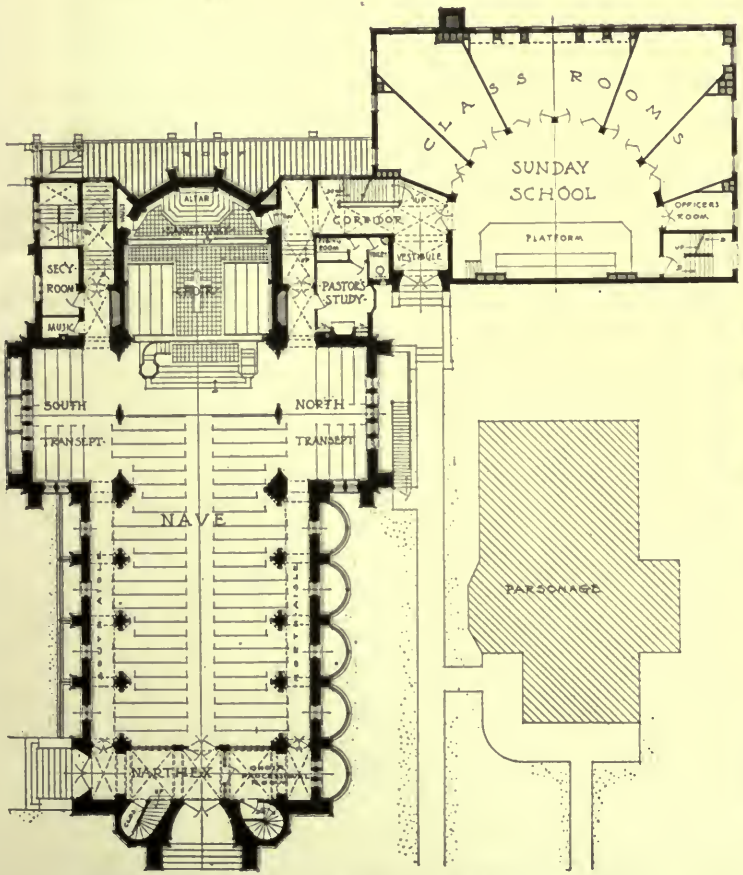
emblems, which are everywhere to be seen in woodwork, glass and masonry. The pulpit has nine shields bearing gold symbols of the Passion of the Saviour. Luther's crest appears in color and gold upon shields which enrich the gallery fronts. The chancel is lighted by seven lancet windows, symbolizing the seven original churches; the three center ones contain representations of the Nativity, the Passion and the Ascension; the other four are of a purely geometrical character. The large windows of the clerestory are divided into three sections, symbolizing the Trinity.

The great aim in view in designing the glass was to produce the rich tone found in the thirteenth century glass of the old cathedrals. It was also definitely determined that there should be no large figures or other features which would by their size dwarf the whole or make unduly prominent any portion of it; neither should any masses of color be permitted to dominate the scheme. This did not mean the elimination of pattern or the use of a mere kaleidoscopic massing of bits of colored glass, but the careful building up of well studied pattern, with such restraint that, though filled with pictured symbolism, it would at first sight suggest only a rich glow of jeweled light. The completed windows show a remarkable fidelity to the spirit of the original studies. There are figures and emblems innumerable, all forming component parts of a well-studied and evident plan of ornament. Medallions give a needed accent to the scroll work and other ornament; the tiny figures which have been used unstintedly show great fidelity in drawing; in fact, painstaking skill is evident in every detail. Yet in striving for these minute perfections, the greater thing, the true function of the window, has not been forgotten; and when one steps back to get the general effect, the little details are forgotten and one is conscious only of a great glow of scintillating color, filled with the sparkle and fire of jewels.

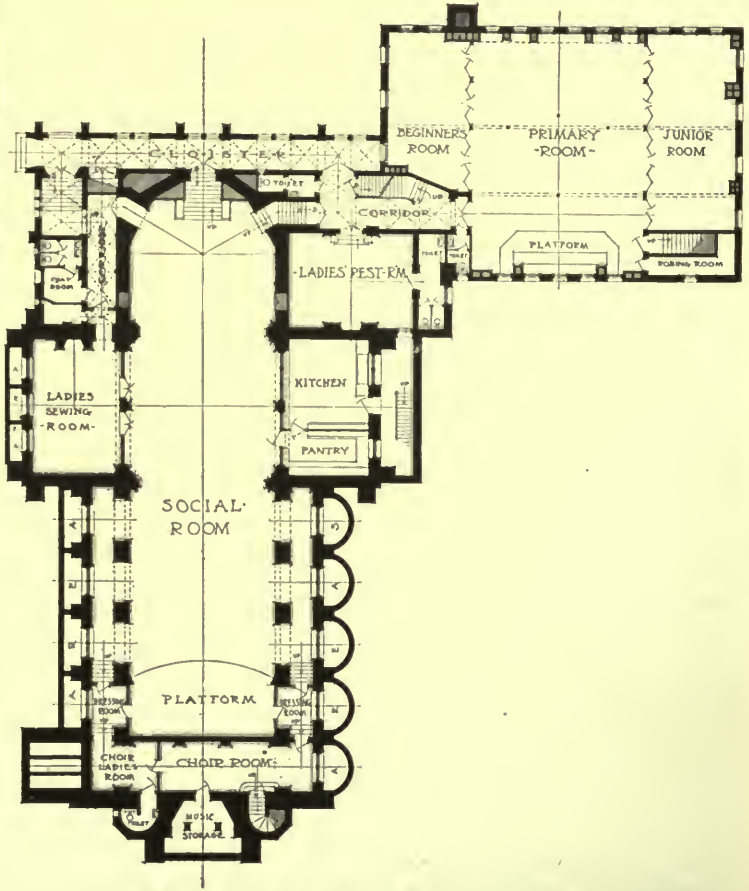
The altar and reredos of artificial Caen stone, with their light color and delicacy of detail, give a pleasing relief to the



SUNDAY SCHOOL ENTRANCE—TRINITY LUTHERAN CHURCH, AKRON, OHIO. J. W. C. CORBUSIER, ARCHITECT.




GROUND FLOOR PLAN—TRINITY LUTHERAN CHURCH, AKRON, OHIO.




BASEMENT FLOOR PLAN—TRINITY LUTHERAN CHURCH, AKRON, OHIO.



DETAIL OF TRANSEPT—TRINITY LUTHERAN CHURCH, AKRON, OHIO, J. W. C. CORBUSIER, ARCHITECT.



VIEW TOWARD CHANCEL—TRINITY LUTHERAN CHURCH, AKRON, OHIO.
J. W. C. Corbusier, Architect.

sombreness of the chancel, whose plain oak wainscot rises to the gallery level. Five figures are being carved for the niches in the reredos, the middle one being the figure of the Saviour, the other four representing the four Evangelists. The technical inspiration for these figures is to be drawn from the best work of the Middle Ages, and when completed they are to be enriched with gold and color, and antiqued.

The divided organ is placed on either side of the chancel, lancet openings from both chancel and transepts being filled with plain pipes, no provision having as yet been made for a decorative organ front.

The metal work throughout the church deserves especial mention. Lighting fixtures, locks, hinges, in fact all exposed metal work, were designed by the architect; and here again is illustrated the fidelity with which the spirit of the Gothic style has been preserved. The iron shows the handiwork of the smith, not the founder nor the machinist, for a glance makes evident the fact that this work was hammered out on the anvil and not cast in a foundry or cut on a machine. As a relief from the possible monotony of the dark metal, bits of gold enrichment have been introduced here and there, but so toned down in color as to appear but a touch of accent and not a jarring spot of brightness.

An inspection of the accompanying plans will show a well studied arrangement of accommodation for the various branches of parish activity. As yet but little provision has been made for "institutional work," but sufficient ground space is available for future extension along this line.

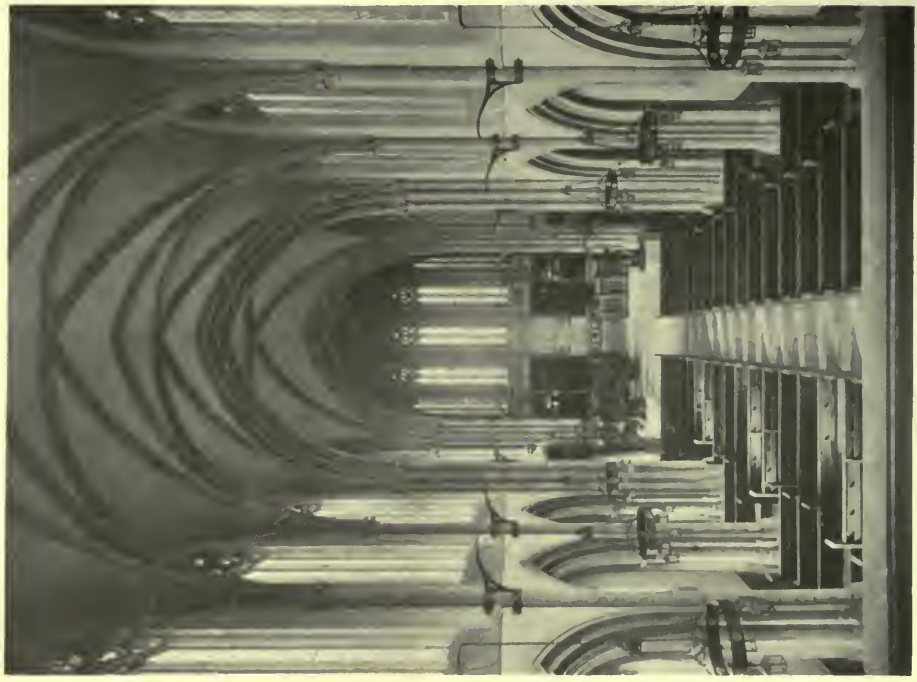
In the basement, beneath the church proper, is the large social room, which will be utilized for entertainments, suppers and various social gatherings. This has an exceptionally high ceiling for a basement room, is unobstructed by piers or columns and as it has a seating capac-



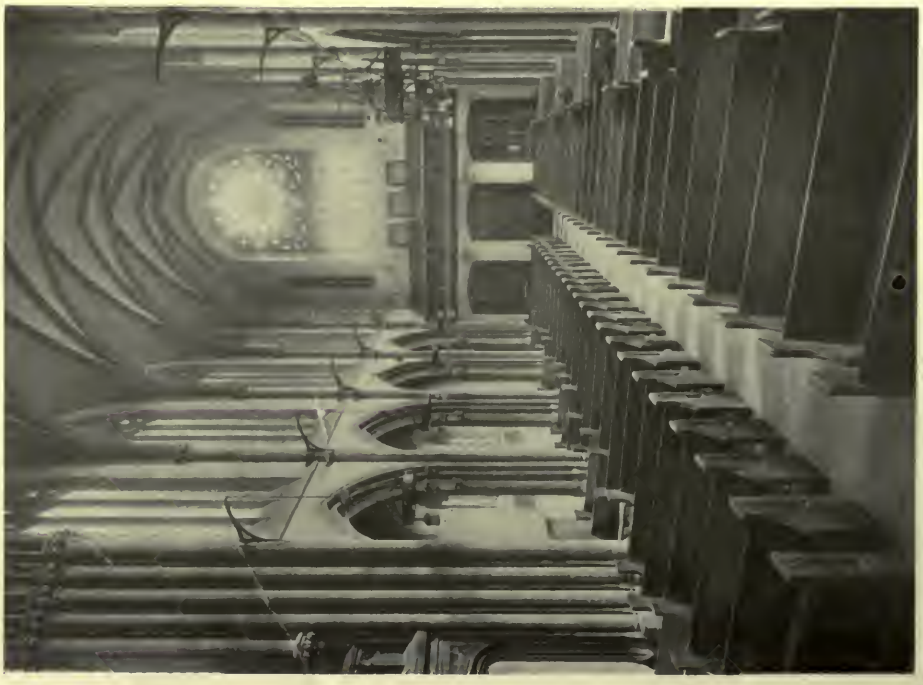
NARTHEX SCREEN—TRINITY LUTHERAN CHURCH, AKRON, OHIO.
J. W. C. Corbusier, Architect.



NARTHEX—TRINITY LUTHERAN CHURCH, AKRON, OHIO.
J. W. C. Corbusier, Architect.



FROM NARTHEX GALLERY—TRINITY LUTHERAN CHURCH, AKRON, OHIO.



VIEW TOWARDS NARTHEX—TRINITY LUTHERAN CHURCH, AKRON, OHIO.



DETAIL OF ALTAR—TRINITY LUTHERAN CHURCH, AKRON, OHIO.



LOOKING TOWARDS PULPIT—TRINITY LUTHERAN CHURCH, AKRON, OHIO.



MAIN SUNDAY SCHOOL ROOM—TRINITY LUTHERAN CHURCH, AKRON, OHIO. J. W. C. CORBUSIER, ARCHITECT.

ity nearly equal to that of the church above, it renders unnecessary the use of the latter for any except devotional purposes. An elevated platform makes ample provision for concerts and other entertainments and is adjoined by two dressing rooms, in connection with which the choir robing room can be pressed into service when necessary. The space beneath the platform is enclosed by doors, behind which are stored the folding banquet tables and surplus chairs. These rest upon light trucks, by means of which they may be readily wheeled to any part of the room.

The adjoining kitchen and pantry are exceptionally well ventilated and lighted because of the high ceilings and the large windows which open into areaways. Service to the dining room is simplified by sliding panels in the partition, through which the dishes are passed across a counter to the waiters.

As the rooms devoted to the various societies open from the social room, all the business and social life is centered in this part of the building, access to which is gained from the cloister in the rear.

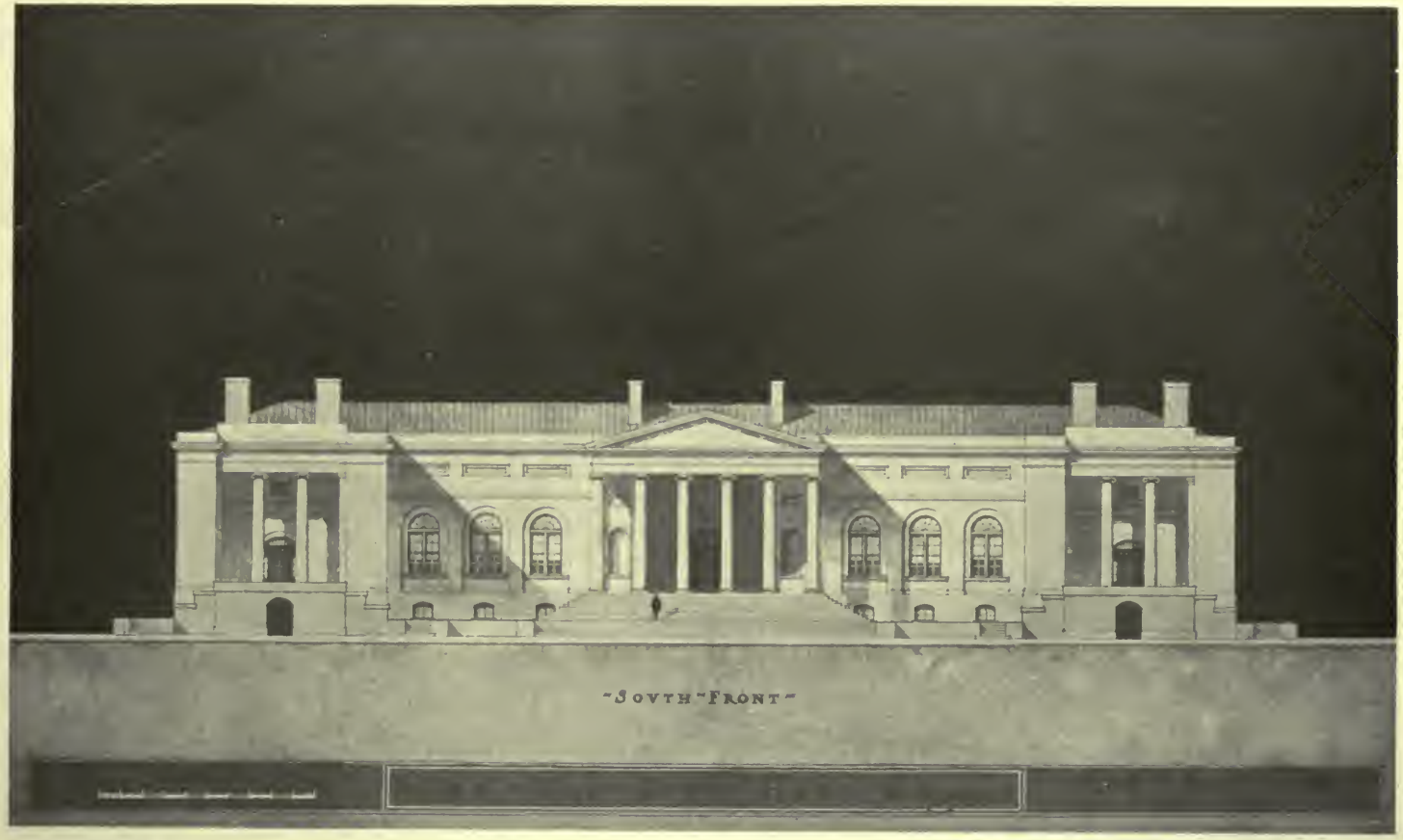
The wing occupied by the Sunday School is entered from two levels, the main room from the front, the primary room from the lower level of the cloister. Thus, although the primary department is on the floor below the main room, the slope of the lot makes it possible for both to have entrances on the ground level and to have outside light. No attempt has been made in this wing to produce architectural effect; but, instead, comfort and convenience have been sought after. The main room has a balcony, which is divided into class rooms, as is also the space beneath. These rooms are so arranged in plan as to focus on the center of the rostrum, thus affording an unobstructed view of the speaker from every seat in the room.



SOUTH SIDE AISLE—TRINITY LUTHERAN CHURCH, AKRON, OHIO.

It will be seen that all the various departments of church activity are adequately provided for and in such a way as to insure privacy for each. Thus, the devotional services of the church proper, the social and business functions of the different societies, and the educational work of the Sunday School may all be carried on simultaneously without interfering with one another, and yet all are so housed as to have convenient inter-communication.

Taken as a whole, Trinity Lutheran Church is an interesting example of the progress that is being made and the interest that is being taken in developing higher ideals in ecclesiastical architecture.




THE OLD CITY HALL, NOW KNOWN AS THE COURT HOUSE, WASHINGTON, D. C. BEGUN IN 1820 AND FINISHED IN 1849. GEORGE HADFIELD, ARCHITECT.



THE OLD CITY HALL, WASHINGTON, D. C.

# The OLD CITY HALL WASHINGTON, D.C.

*By H.F. Cunningham*

ABOUT the middle of the year 1795 President Washington and Dr. Thornton, author of the accepted design for the Capitol Building, became dissatisfied with the Frenchman, Hallet, who had been employed as superintendent of construction, and cast about for some one to take his place. John Trumbull, the artist, was then in London and, hearing of the vacancy, wrote Thornton, urging the appointment of George Hadfield, a young British architect who had "cut quite a caper" at the Royal British Academy of Art about that time, having won all the prizes at the Academy for excellence of architecture. Benjamin West, President of the Royal Academy, strongly recommended Hadfield, expressing himself as convinced that he possessed a more thorough knowledge of civil architecture than any other young man in England.

Hadfield was accordingly appointed to the vacancy on October 15, 1795, his salary to be $1,400 per annum, plus his traveling expenses to America. The Capitol Building was then scarcely started, Hallet having done nothing but some excavating and a few foundations, most of which were later removed as unnecessary.

Shortly after taking up his work Hadfield thought it advisable to suggest certain changes in the design of the building, among other things recommending the addition of an attic story to the design as accepted. The Commissioners in charge of the work had, however, become dissatisfied with Hallet by reason of his wanting to make changes in the design and were not open to suggestions. Learning of their rejection of his recommendations, Hadfield promptly gave the three months' notice required by his contract and was ready to quit; but finding the Commissioners willing to accept his resignation, he withdrew it and was continued on the work, with the express stipulation that he was "engaged to superintend the execution of the plan without alteration."

Things seem to have gone right smoothly with him for a time, until 1798, when, on May 10, he was notified that his resignation would be acceptable, to take effect three months from that date, but without waiting for the three months to elapse, he resigned forthwith. The trou-



VIEW ACROSS FORECOURT—THE OLD CITY HALL, WASHINGTON, D. C.

ble this time was that he refused to surrender his drawings for the Federal Executive Offices, then building (demolished many years ago to make room for the Treasury and State, War and Navy Department Buildings). James Hoban, architect of the President's House, was then engaged to succeed Hadfield on the Capitol work, and was paid Hadfield's salary in addition to the $1,400 a year he already received for his work on the President's House.

Hadfield then engaged in private practice in the new city and remained there until his death, in 1826. He designed in the course of his practice several public and private buildings that we can positively attribute to him and possibly several others whose authorship is not so definitely known. Among the buildings of which we are certain he was the author are the Federal Offices above referred to, the Mausoleum for the Van Ness family, still standing in Oak Hill Cemetery in Georgetown, and the City Hall, now occupied by the United States Courts of the District of Columbia, and illustrated herewith. The Van Ness Tomb is a gem of refinement and proportion, and it is difficult to imagine a more satisfactory solution of the problem. There is a very beautiful urn at the top of it and all the details are most delicate and pleasing. Like Palladio, Hadfield was compelled to work in the cheapest and most easily gotten materials; and this lovely tomb, like the Court House, is sadly in need of repair.

I think we should not be far wrong in attributing the group of buildings built on Analostan Island for the Mason family to Hadfield, as well as several other private houses in the city which are still standing and occupied. Certainly no one else, unless it were Dr. Thornton, could have produced anything so well proportioned and so exquisitely detailed as the Mason house, and all Dr. Thornton's works are pretty definitely known.

The City Hall was begun in 1820, the first part built being the central part with its Greek Ionic portico. The east wing was finished in 1826, the year of its author's death, and the west wing not until 1849. During this rather long period of construction the building was, according to an early writer, "a veritable ruin."

In 1871 the building was made over to

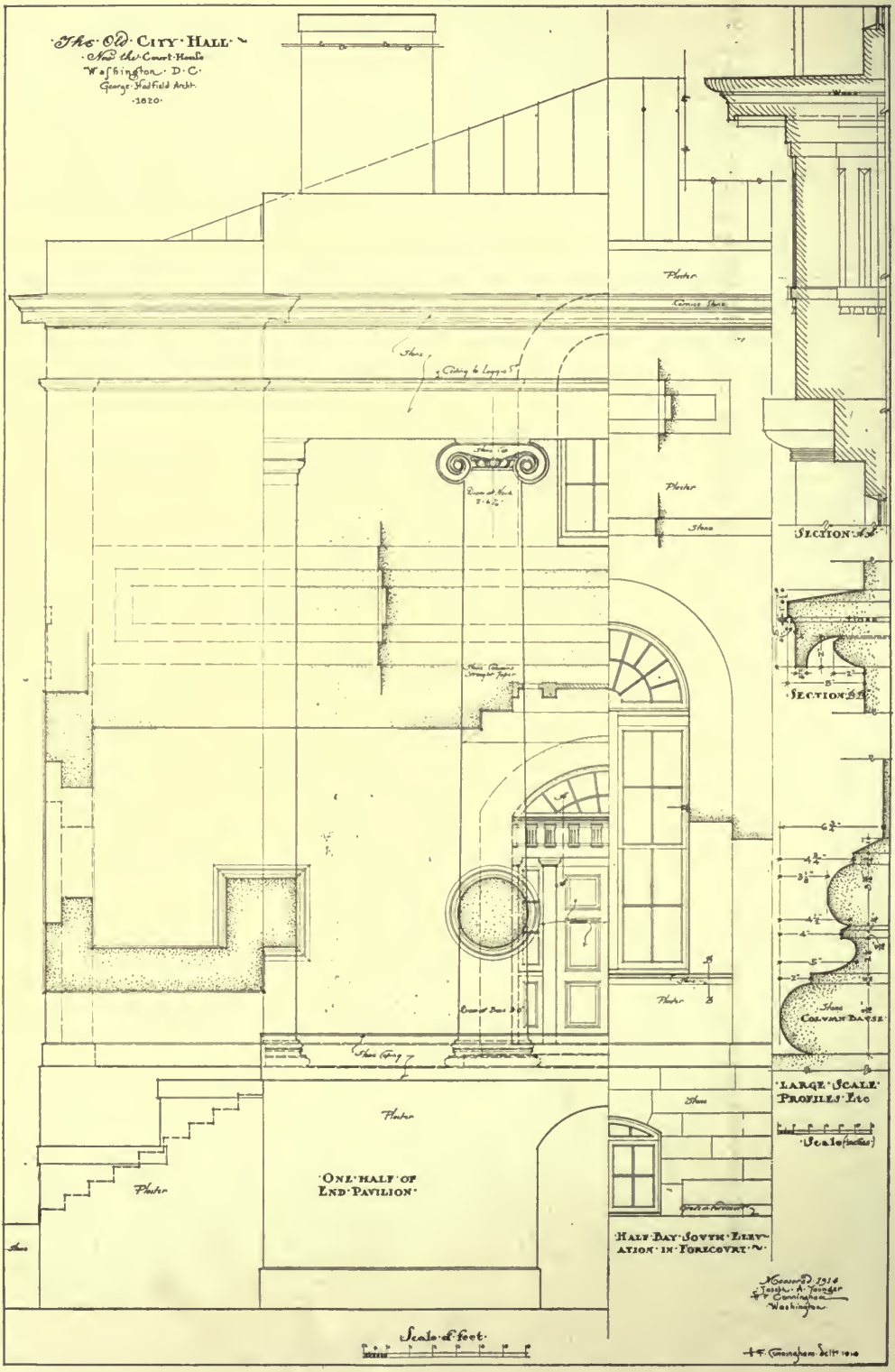
the Federal Government and has since that time housed the District Courts. The offices of the U. S. District Attorney, the U. S. Marshal, the Register of Wills and Recorder of Deeds are also quartered in it. The District Jail was formerly located directly behind the City Hall, and there were in connection with it a number of underground cells, which are said to have been quite undesirable places in which to spend one's days. The building has been the scene of a number of famous trials, among them that of Guiteau, the murderer of President Garfield.

The City Hall, or Court House, as it is now always called, furnishes a notable example of the possibility of achieving a perfectly satisfactory building without the use of any ornament whatever. The architect relied entirely upon proportion and correct detail in this case, as he did in all the examples of his work that we know, and the result is most admirable. The interiors are almost barn-like in their absolute simplicity, and this is a source of much criticism on the part of its present occupants. Those who have to use the building are endeavoring to have Congress provide what they consider more suitable quarters, and several schemes have been brought forward, among them the refacing of the building with limestone or the replacing of it with a wholly new structure. In either event the city would lose a most notable example of early American architecture. The building is of brick, stuccoed, with the architectural members, columns and the like of sandstone, the whole being painted white. The situation is most agreeable, the building being set in a large park, with an adequate approach and a sufficient clear space all around.

There has been so little money appropriated for its maintenance for some time past that certain parts, especially on the exterior, are badly in need of repair, some of the stone members having disintegrated through lack of paint, and the stucco having peeled off in many places. The entire restoration of the building is, however, quite possible and should not prove very expensive; and it is to be hoped that there will be found a willingness on the part of those in authority to



SOUTH ELEVATION OF WEST WING, SHOWING ANNEX IN BACKGROUND—THE OLD CITY HALL, WASHINGTON, D. C.


The Old City Hall
Now the Court House
Washington D.C.
George Hadfield Archt.
1820
Plaster
Cornice Stone
Stone
Ceiling & Joggs
Plaster
Stone
SECTION AA
SECTION BB
Plaster
B
Stone
COLUMN BASE
LARGE SCALE PROFILES Etc
Scale (inches)
Plaster
Plaster
ONE HALF OF END PAVILION
HALF BAY SOUTH ELEVATION IN FORECOURT
Measured 1910 Joseph A. Younger & F. Cunningham Washington
Scale of feet
F.F. Cunningham Delt 1910



WEST ELEVATION OF WEST WING—THE OLD CITY HALL, WASHINGTON, D. C.

appropriate without further delay sufficient funds to undertake it.

There are some interesting comments on Mr. Hadfield to be found in the correspondence of his contemporaries, a few of which follow:

The Commissioners in charge of the building of the new city write, in 1797, that "Hadfield has drawn the plan of all the public offices to be erected in the City of Washington, and which have met with the approbation of the President and the several Departments for which they are intended;" and again in 1798, after he had resigned, "We believe Mr. Hadfield to be a young man of taste but we have found him extremely deficient in practical knowledge as an architect."

This latter criticism would seem to be rather disproved by such of his work as we know today, as well as by the following extract from a letter written by the artist Trumbull after Hadfield's death: "His services were soon dispensed with, not because his knowledge was not eminent, but because his integrity compelled him to say that parts of the original plan could not be executed. Poor Hadfield languished many years in obscurity in Washington, where, however, toward the close of his life, he had the opportunity of erecting a noble monument to himself in the City Hall, a beautiful building in which is no waste of space or materials."

Latrobe, the famous architect, later connected with the Capitol work, wrote to Hadfield urging him to prove his authorship of certain parts of the design for the Capitol and thus lighten "the load of calumny with which you have been treated," but Hadfield never laid claim to any portion of the design as his own.

In concluding the foregoing brief sketch, the present writer wishes to express his indebtedness to the very interesting "History of the Capitol" by Mr. Glenn Brown, F. A. I. A., for many of the facts relative to Hadfield's work.



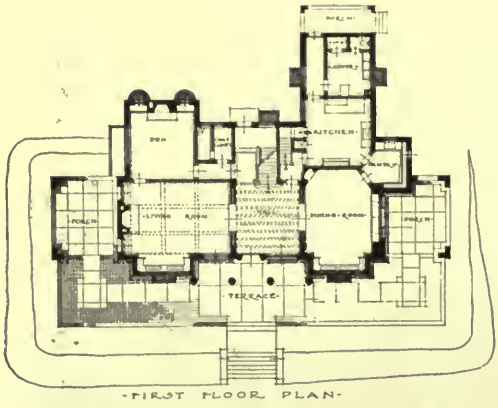
RESIDENCE OF W. PARK MOORE, ESQ., ELKINS PARK, PA. HEACOCK & HOKANSON, ARCHITECTS.

# PORTFOLIO OF CVRRENT ARCHITECTVRE

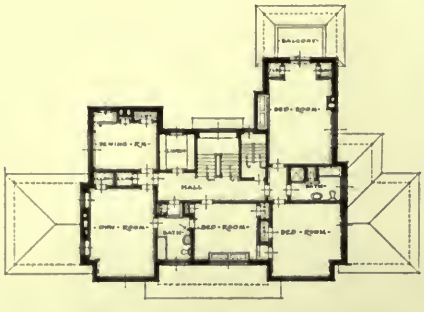


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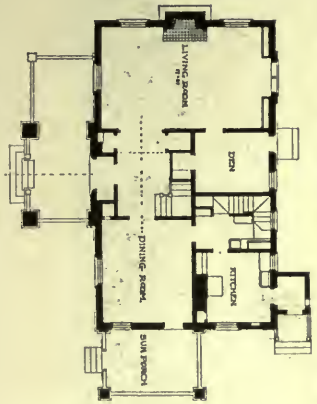



FIRST FLOOR PLAN.




SECOND FLOOR PLAN.

RESIDENCE OF W. PARK MOORE, ESQ., ELKINS PARK, PA. HEACOCK & HOKANSON, ARCHITECTS.






RESIDENCE OF LAWRENCE MILLER, ESQ., ELMSFORD, N. Y.
JOHN C. MOORE, ARCHITECT.



NEW POST OFFICE, WASHINGTON, D. C.
Graham, Burnham & Co., Architects.



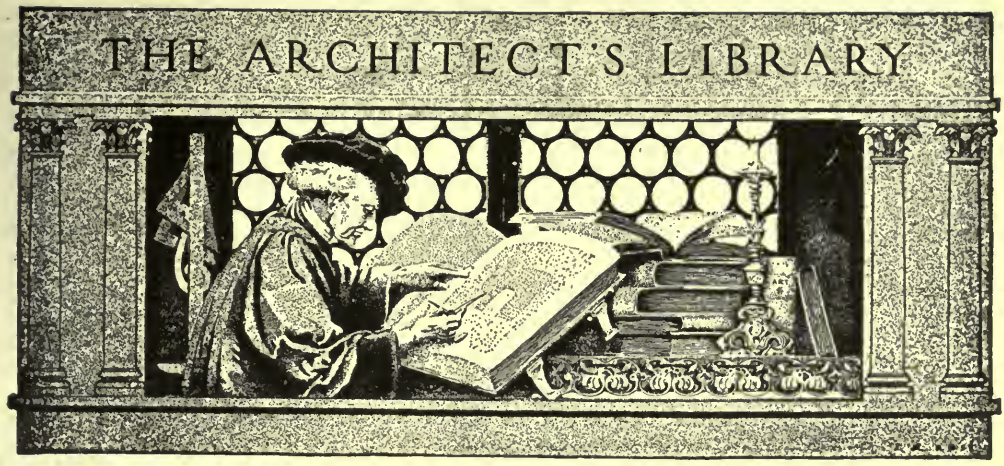
NEW POST OFFICE, WASHINGTON, D. C.
Graham, Burnham & Co., Architects.



NEW POST OFFICE, WASHINGTON, D. C.
GRAHAM, BURNHAM & CO., ARCHITECTS.



NEW POST OFFICE, WASHINGTON, D. C.
GRAHAM, BURNHAM & CO., ARCHITECTS.




# BOOKS FROM UNIVERSITY PRESSES

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART I.

WHERE there is no state supervision of the publication of learned and eminently useful works which in themselves are not sufficiently well supported by public interest or financial subsidy, it is well for the universities of the country to take it upon themselves to guarantee that certain undertakings, especially archæological researches and phenomenal scientific advances, often too little known or of too slight monetary promise to be handled by publishing firms, shall in proper form see the light. In Germany, Austria and France many such contributions to human knowledge are fathered by the respective governments, sometimes by schools of fine arts or by altruistic societies. In England, especially, the institutions of this country have found their prototypes for the establishment of presses under the control of prominent universities, notably at Oxford and Cambridge. In the United States a number of such presses have latterly come into being, the finest, no doubt, at Yale, Harvard, Princeton and Columbia. From the standpoint of architecture and the arts the first three mentioned have already produced excellent volumes, while Columbia has under way extensive plans for the installation of the machinery of reproduction and the handling of its own printing entirely within campus limits. In other fields, not requiring the expensive means for making highly finished illustrations, all of these institutions, not to mention the Universities of Chicago and Pennsylvania, have published extended series of authoritative books; as, for instance, in the departments of history or of philology.

By far the best volume which has thus far been issued by the university presses, both for intrinsic value and for bookmaking skill, is that by William Henry Goodyear, entitled *Greek Refinements; Studies in Temperamental Architecture* (Yale University Press, New Haven, Conn.; quarto, pp. xx—227, indices; $10). This is a new and complete restatement of the matter of constructive curvatures as applied to Greek building, and it is intended to become—we are grateful to learn—the first volume in a series, of which the second will concern the medieval aspect of the subject. Mr. Goodyear has achieved new laurels with this work for several reasons; and not

the least of these is that he has provided us with a compact modern interpretation of a much-discussed but scholastically neglected phase of antique beauty, which has hitherto appeared only in widely disseminated articles in the periodicals by Mr. Goodyear himself, in the frequently ill-humored attacks upon his theories and proofs in foreign journals, and finally in English books over sixty years old and not suitable for general use because of their weight, size and specialized mode of treatment. The new volume is a "summary, but systematic and readable, account" of a subject, which in this guise takes on a fresh life and vivid interest, although it has in the past often been visited with voluntary ignorance; and we can assure its author that the general appreciation of his researches, until now but grudgingly accepted by those who could best profit by them, will not be long outstanding. No doubt he will reap his greatest harvest in the schools, where the format of the volume will commend it as a standard library work.

In order that the correct definition and application of the term "refinements" may be properly construed, let us first quote the author's words, on page 3, to the effect that " . . they are purposed departures from the supposedly geometric regularity of the horizontal and perpendicular lines in the Greek temples, and from the presumed mathematical equality of their apparently corresponding dimensions and spaces." And here we have, in the present reviewer's opinion, a fair estimate of the chief reason for the continued incredulity aroused in many, even avowedly professional and learned circles, when the matter of intentional curvature has been broached. It is seen in Mr. Goodyear's express and well-advised use of "supposedly," "presumed" and "apparently." Out of suppositions and presumptions the mind creates a mirage, an ideal, or a superstition; surely it can, by the same token, also create a wrong impression—especially when the erstwhile disconcerting science of optics, inaccurate knowledge of ancient life, ability and constructive methods, and a generally befogged understanding of the meaning of Greek life in relation to art are also called into play. First impressions are often lasting, though they may be based on thin air, hearsay or an inborn opinionative inclination. Again, although men of high standing made public the first notice of Greek temple curvatures, no such extravagant reports had been penned by Stuart and Revett or Lord Elgin, who had with their scaffoldings climbed to all parts of the Parthenon. Vitruvius himself, whose writing had been architectural gospel for centuries, had a careful passage concerning the construction of curves in elevation; yet the 1812 translation of his book, edited by Wilkins, contained an explicit footnote to the effect that "they were probably never actually employed." For these reasons, coupled with a consistent unwillingness on the part of readers, writers and students to test authors' statements by the monuments themselves, Mr. Goodyear has fought down a host of opponents in whose inkpots his findings had accomplished an unwonted confusion. By dint of archæologic conviction, a doughty spirit and a sheaf of wholesome facts, he has at last succeeded in establishing the refinements as essential members in the art and science of Greek building, and his efforts may be said to culminate in the present volume, a capstone for his whole fabric.

Those who still cavil at the structural intention and artistic value of refinements in building may be said to stand at the gate of an architectural Samaria. They jeered at the "glamor of crooked building." The deflections were so slight that they were not observed unless sighted for, and those who mocked had done no sighting; what is more, they wilfully ignored the fact that measurements and observations of the masonry itself had led the pioneers in this field to make their declarations. They then relied upon the fallibility of the mason's eye, until it was demonstrated that "the degree of error which may have arisen from inaccuracy of workmanship in the Parthenon," *i. e.*, between the breadths of the east and west fronts, was .022 of an inch, or one-fiftieth of an inch in 101 feet. This matter of the quality of Greek masonry had, furthermore, been set at rest by Stuart, who showed that the finely ground stones of

the steps in the stylobate of the Parthenon, which are laid without mortar, had by what the chemist and physicist call molecular attraction, practically grown together. What is more, those who came to scoff were not loath to admit the existence of an inward leaning of columns and of vertical faces of architrave and frieze, a forward leaning of antæ, vertical cornice faces, fronts of abaci, acroteria and antefixæ, and a leaning toward each other of door-jambs; and they were fully assured that the columns and capitals of the Parthenon were of differing sizes (the maximum variation being two and one-quarter inches), that intercolumniations varied and that metopes were not of uniform width. These were facts, incontrovertible and accepted only because substantiated by measurements; yet similar truths in different guise and similarly vouched for by measurements, even by photographs, were met with ridicule when described as curves in plan or curves in elevation. These are the master curves, for they demand the maximum building skill and the most refined æsthetic sense.

Mr. Goodyear disposes finally of a number of erroneous theories which have cluttered the progress of study in this field and have obscured or misled non-professional students, who were guided only by the cursory notices in art histories and text-books. Among these incorrect assumptions is the supposition that Greek refinements "were designed as optical corrections of optical effects of irregularity," *e. g.*, the upper horizontal curve (in the entablature) as a correction of the alleged optical effect of a downward sagging in absolutely straight lines of similar length similarly placed. This is controverted by the fact that the optical theory involved has not received the indorsement of a single expert in optics, although men of the stamp of Hauck and Thiersch have devoted their energies to a solution of the problem; furthermore, it is controverted by recent investigations of inward curves in plan at Cori, Pæstum and Egesta, which show that "it is exactly an optical effect of sagging downward which is actually produced by these concave curves in plan, as far as the upper horizontal lines are concerned"; and finally it is set at nought by a principle in the elements of perspective, by virtue of which "lines above the level of the eye, and especially on near approach, curve downward toward the extremities and not toward the center." Another explanation hopelessly beside the mark was that based upon the opinion that Greek buildings were destined to be seen from fixed points of view. This cannot, of course, hold water in face of the extended excavations at Olympia, Delphi and other centers, for each spectator would require a municipal map of progress through these cities, with marked points of accent, so that he might be assured of a proper point of view in accordance with that intended by the architects of the buildings.

Yet Mr. Goodyear does not ignore the human possibility that such curvatures might be modulations (1) "designed to please the eye by avoiding the inartistic effects which attend formal monotony;" (2) "intended to suggest and accent desirable effects," or (3) "intended to avoid unpleasant effects." These three possibilities are illustrated in order (1) by the horizontal curvature; (2) by the "convergence and inward leaning of the main perpendicular lines, which gives an effect of solidity and strength;" and (3) by the decreasing intercolumniations between angle columns and the concomitant "variations in the metope widths."

Let us consider briefly the history of exploration in regard to Greek refinements. To begin with, none of these deflections from geometric regularity were known through publications before 1838. In 1836 horizontal curvatures in the Parthenon were first noticed by Joseph Hoffer, the court architect of the contemporary Bavarian king of Greece, and in 1838 he published his observations, together with a goodly number of measurements, in the *Wiener Bauzeitung*. At about the same time and, no doubt, independently, John Pennethorne observed the same curvatures in the Parthenon, not to mention others in the Theseion and the Athenian Propylæa; but only after a study of the directions given by Vitruvius and a journey to Egypt (in 1833), where he found other curves in plan in the tem-

ple of Medinet Habu. Pennethorne's investigations found form in a pamphlet privately circulated in 1844 and in a folio volume published in 1878 entitled *Geometry and Optics of the Ancients.* The task of investigation in this field was next undertaken by Francis Cranmer Penrose, its chief apostle before Mr. Goodyear, and whose results were published in 1851 under the title *An Investigation of the Principles of Athenian Architecture.* This was up to the time of the publication of the volume under discussion the best and most general work in the field, but its bulky proportions and specialist's point of view precluded its general usefulness. We can safely say that the ægis has now been transferred to new shoulders. Nor has Mr. Goodyear's advocacy of the æsthetic quality of these deflections been the joyful path of a bringer of welcome news; for he has shared the fate of every prophet, being, in the nature of things, without honor in his own country. The author's studies date from 1868, when he learned his first steps in this direction from Carl Friedrichs of the Berlin Museum, and were propagated and widened in scope by suggestions found in Förster, Burckhardt and Ruskin to include similar deflections in Italo-Byzantine and Italian-Romanesque buildings. After several years of study, extending to 1874, the researches were discontinued until 1895, when were begun the deep studies which have since that time, thanks to Mr. Goodyear's unflagging zeal, gradually gathered to themselves a definite form and reality in the minds of men, professional and others, so that the Greek refinements now constitute an undeniable and accepted factor in the Greek constructive system.

It is noteworthy that at the very beginning of these discoveries Hoffer's account gives due credit for the æsthetic as well as the structural value of his findings. For instance, he says: "In modern times great porticos, of at least equally large dimensions, have been built, and yet we have not been able to achieve the same satisfactory effect . . we find then that the Greeks were not content to build their temples according to narrow rules or according to such a canon as Vitruvius, or the modern architects, endeavor to establish, but that everything was with them a matter of feeling. They had the feeling, which was encouraged by their high culture and their happy climate, that straight lines have a cramped and stiff effect (*einen beengenden und starren Eindruck*)." In this connection Mr. Goodyear's subtitle, *Studies in Temperamental Architecture,* should be noted, and also his statement, on page 68, that ". . the classic horizontal curvatures were temperamental refinements inspired by the sentiment of beauty and by artistic preference, and not by a desire to exaggerate by optical correction the formalism, stiffness and rigidity of straight lines." And it is interesting to trace in the writings of other art historians of note a similar intentional avoidance of any theory of pure optics and a decided insistence upon the temperamental quality as *raison d'être* for the Greek refinements. Witness Kugler's opinion that the desired result was "an effect of breathing life"; or Schnaase's, "a feeling of life inspired the whole building"; or Burckhardt's, "These (curves) are the expression of the same feeling which . . everywhere sought to give to apparently mathematical forms the pulsation of a living organism." Similar passages of generally identical content may be found in Michaelis, Boutmy, Choisy, Anderson, Spiers, Percy Gardner and Ruskin.

An interesting section of Mr. Goodyear's book is that concerning the universality of the use of horizontal refinements, and another is that concerning the method of construction of horizontal curves in temple platforms. After reading an account with such a sharp focus as that contained in the present volume, it is not difficult to assume that these plan and elevation deflections were of universal application. The reverse is demonstrated by the author and the reason for the absence of curves in certain cases is found in the necessary economy of labor and of money practiced when buildings were erected in times of national stress. This reason would not, of course, affect stylobate deflections, but chiefly the subsequently necessary grinding of the beds of the lower column drums to give them

the proper position and inward inclination under the conditions of a curved base. Temples without horizontal curves are the Erectheion at Athens, built eight years after the completion of the Parthenon, the temple of Nike Apteros, also on the Acropolis and likewise of the fifth century B. C., the temple at Phigaleia, of which the architects of the Parthenon were also the authors, the temples at Aegina and at Rhamnus, both the Zeus and the Hera temples at Olympia, and the sixth century Greek Basilica at Pæstum in southern Italy.

There are therefore a number of important buildings in which refinements of the horizontal type at least do not play any part at all. Apart from the possible reason above stated, there may be one other important cause for the omission of such deflections, namely, the desire of the architect in question. Says Mr. Goodyear on page 115: "How did the introduction of these various Greek devices actually come about, as a matter of fact? Common sense would lead us to suppose that, aside from Egyptian influence or example in the matter of curves, and perhaps also in other directions, the introduction of the Greek refinements was gradual, tentative, and experimental, and that it was also temperamental, and controlled by the susceptibilities and sensitiveness of the individual architect. Only this point of view could explain the variations in the measurements for the same refinement in different buildings." We have, therefore, a free and spontaneous and, better yet, individual interpretation in the execution of Greek refinements; they are not only tolerated but obviously intentional and really a part of design as we understand it. And this is a new contribution toward the proper definition of that much maltreated descriptive adjective, *classic*.

The matter of the method of laying stereobate or stylobate stones in order to obtain the desired curvature is made clear by the author's reference to Emile Burnouf's explanation, dated as long ago as 1875, of Vitruvius' directions concerning the use of *scamilli impares*, or unequal sighting projections (*scamillus* is best translated by the French word *nivelette*). The *scamilli* on the individual blocks were of varying sizes, graded according to position—shorter on the middle blocks, taller on those in the extremities of the stylobate—and by sighting properly along their points, the calculated curvature was readily obtained. It is obvious that a similar method would also be feasible for setting out curves in plan.

In order to make his book sufficiently inclusive, Mr. Goodyear also devotes a section to vertical inclinations in Greek temples; notably the inward lean of the columns (pointed out by Donaldson in 1829), with the consequent diagonal inclination of the corner shafts, the forward leaning of antæ, the entasis (which has been published only since 1810) and the diminution of columnar diameters. A thoroughly illuminating chapter is that on "Asymmetric dimensions in Greek temples," wherein is adequately set forth that formal regularity was not the "desirable ideal of classic architecture." In this connection is discussed the Hera Temple at Olympia, with its heterogeneous columns which, according to Dörpfeld, superseded original timber shafts in the order of their decay and therefore illustrate a number of successive phases in the treatment of column and capital. These discrepancies are seen in a new light when discussed in the same paragraph with similar variations at Selinus, in Temple G; nor are we yet satisfied with any explanations thus far advanced in regard to Greek indulgence on this head; for obviously, according to Durm, "it did not offend the Greek sense of beauty to allow columns of quite unlike form in the same building side by side." An amazing example of such disparity of column diameters is seen at Syracuse in Ortygia, where in the sixth century Apollo Temple the two remaining "monolithic angle columns, on the same front, differ by a foot (thirty cm.) in diameter." From Mr. Goodyear's instructive chapter on the many Greek asymmetries, those in plan dimensions, spacing and diameter of columns, and others, we may, then, select the following concise statement of the case: "The fact thus stands out in bold relief that both systematic and unsystematic irregularities are found in the same Greek

temples." And this is followed by the promise of a subsequent volume on the curvatures in buildings of a later date; therefore we obtain a foothold and parallel for demonstrations in later volumes of these studies that the existence of unsystematic irregularities of dimension in a given medieval cathedral, does not preclude or discredit the existence of systematic irregularities in the same cathedral. This gives us no little food for thought by way of anticipation; we eagerly await the study of the medieval refinements, for these have been made the target of the most virulent attacks in the past.

Finally we heartily congratulate Mr. Goodyear upon this notable volume, its scholarly and efficient arrangement, and its sterling subject matter. For purposes of demonstration and suitable reference an appendix is added to each chapter; the footnotes are lettered and appendix sections are indicated in the body of the text by numbers. There is also an index of authorities with page references, and an analyzed index of subject matter. The book is a fine example of American ideals in typography and illustration, as well as of the exacting standard of the Yale University Press.

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## OLD PHILADELPHIA.

WE have in our Atlantic Seaboard States a wealth of worthy architectural remains from the eighteenth century, and all too few of them are widely known. Many of these old buildings are in places difficult to reach and there is no accessible or accurate record of the details and features that give them their peculiar charm. Year by year the ancient structures grow less in number and with the demolition of each one we suffer an irreparable loss to our heritage which is only mitigated in some degree by the possession of accurate measurements and drawings.

The authors of *Old Philadelphia Colonial Details** have reaped in a fat field, for Philadelphia and the neighboring country offer an abundance of valuable architectural material that has scarcely been touched. Of the fifty odd large folio plates, drawn chiefly at three-fourths inch scale or else in full size, thirteen are devoted to Hope Lodge, built in 1723 and an excellent example of early Georgian work. Seven plates are given to Graeme Park, Horsham, built in 1722 by Sir William Keith. Graeme Park, owing to its location, is difficult to reach and, as the house presents one of the finest examples of early Georgian panelling, and moulding details, one wishes that even more space might have been bestowed upon it. Cliveden in Germantown also has seven plates. To the State House (Independence Hall) are given five plates, the south elevations being from measurements made by Messrs. Brockie and Hastings.

Three city houses, 338 Spruce Street; the Stocker house, 402 South Front Street, and the Bishop White house at Front and Pine Streets, have respectively three, four and three plates. Those of the Stocker house, built about 1768, are particularly interesting because they show the beginnings of Adam influence in American work. The rest of the plates are taken up with various details, including the panelled side of the parlor at Whitby Hall, some interesting pieces of exterior ironwork along the river front and doors and mantels from the King of Prussia Inn (now demolished) in Germantown.

It is to be regretted that the word "Colonial" in the title is somewhat misleading, for the work illustrated is all Georgian and there is not a single piece that is truly Colonial. In a book of such excellent purpose and, in the main, creditable execution, it is unfortunate that such a concession should have been made to popular laxity in the application of the terms "Colonial" and "Georgian."

It is distinctly gratifying to note the large share of attention that has been given to mouldings and to the faithful presentation of their profiles.

H. D. E.

*Old Philadelphia Colonial Details. Measured and Drawn by Joseph Patterson Sims and Charles Willing. New York: Architectural Book Publishing Co., $10.




**The First Garden City in France.**

After six years of construction France has opened her first garden city, at Draveil, near the gates of Paris. No doubt another period of even greater length will pass before the whole work of plantation, laying out of streets, and sanitation is completed, not to mention the erection of some five or six hundred dwellings, of which but fifty are now standing. France at last feels acutely the need for proper building facilities to provide a solution for the problems of city crowding and inadequate housing, although both England and Germany have these many years set her a consistently praiseworthy example, with tangible results in the form of greater health and lower mortality. It is surely time that a nation threatened by the ominous shadow of a falling birth rate should give attention to the greater care of children. It is for these that the garden city will offer the greatest benefits in the way of normal growth and physical efficiency, which are invariably an asset to the nation at large.

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**Ingenious Repairs to Strasburg Cathedral.**

For six or seven years the Germans have been at work preparing new uniform concrete foundations for one of the 142 metre spires of Strasburg Cathedral. The undertaking would not have been completed until 1917, but has now, of course, been indefinitely postponed. The method of carrying out the necessary repairs is of the utmost interest. A complete circle of concrete piles was sunk around the base of the spire and their heads bound together by a concrete crown. The earth around these piles was saturated by hydraulic pressure with a thin cement, or "milk of cement." Another concrete unit or "collar" was prepared to form a base for the tower itself, and between this and the previously mentioned concrete crown the actual work of support during operations was done by twelve powerful jacks. After the whole weight of the tower has been brought to rest upon these provisional foundations, the old stone understructure will be removed and superseded by an immense "thimble" of concrete which is destined to serve as the final foundation. The whole work will cost not less than $500,000.

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**An Exposition of Art for Children.**

The exposition entitled "L'Art pour l'Enfance," recently held in the Galliera Museum in Paris, succeeded in assembling a most remarkable collection of works in a rather unusual field. The exhibits were extremely various in nature, including pictures of children, historic children's costumes, peasant toys, books, nursery decorations, and other artistic efforts, and it was a revelation to the casual visitor to note how large a part children play in the modern artistic world. The court of the museum was filled with play-houses of various types, exhibited by the Paris department stores; houses varying from the architecture of the thatched Breton cabin to that of the trellised arbor. In the main hall toys vied in interest with portraits of children, illustrated children's books and quaint costumes of the eighteenth century. But the exhibits in the long gallery at the rear were, perhaps, the most interesting of all. Here a number of small sections were divided off to show attempts at nursery decoration. One of these compartments, with



CHILD'S ROOM BY MISS JESSIE KING—EXPOSITION DE L'ART POUR L'ENFANCE.



WOODEN TOYS BY ANDRE HELLE—EXPOSITION DE L'ART POUR L'ENFANCE.

white walls and cream-colored furniture, was the work of Miss Lloyd; the English, it seems, excel in this form of art. The high dado around the room was white, with light blue dots, surmounted by a frieze of gray, decorated with conventional flowers in natural colors. The insets in the furniture were of yellow rattan, with colored pictures of animals to add an additional note of gayety. Another nursery interior, by Miss Jessie King, of Glasgow, was almost entirely in blue and white, and its air of brightness and cleanliness delighted all the mothers who visited the exposition. The blue walls and white-painted woodwork and furniture were relieved by designs in gay colors, green and yellow predominating. The floor was a dark gray, the curtains light blue. This room had a large window, with insets of colored glass, whose light tones added animation to the general effect without greatly reducing the amount of sunlight admitted to the nursery. The room contained, in addition to its ingenious built-in cupboards and window seat, and the usual table and chairs, a most charming dolls' house, designed in the style of the room, and a remarkable hobby-horse, this latter being the work of Mlle. Isabelle de Nolde.



GIRL'S ROOM BY MISS LLOYD—EXPOSITION DE L'ART POUR L'ENFANCE.

In the same gallery, ranged along the opposite wall, were the delightful toys designed by André Hellé, the well-known humorist. Here we have a procession of cut-out wooden toys, representing the King (Louis XIV, to judge by the costumes of his following) on the way to the war. This type of wooden toys, of which Hellé and Canau d'Ache have produced such excellent examples, is one that deserves a great degree of popularity. Because of the simplicity of the construction, excellent designs are possible at small expense, and surely these vigorous silhouettes, with their bright colors, should appeal more highly to the imagination of the child than the stuffed horses and woolly lambs of our own less fortunate infancy. Hellé exhibited also, in addition to his wooden toys, pages from his books for children, illustrated in much the same spirit, wall-papers for nurseries, and other similar designs, but the toys seem to have the widest appeal. Wooden toys of the same type have met with considerable success in Germany, and there seems no reason why America should offer a less promising field for a similar experiment.

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**The Hotel Biron a National Monument.**

The Hotel Biron, after many vicissitudes, will at last find a permanent owner in the French government. The building is one of lasting beauty and a fine example of the manner of Jacques Gabriel, from whose designs it was erected in 1730. It is now to become a "national monument" and a depository for the Musée Rodin, in which will be exhibited Greek and Egyptian collections owned by the great sculptor, as well as much of his personal work. The establishment of this museum but slightly antedates that founded by the same artist in London.


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VOL. XXXVII. No. 4 APRIL, 1915 SERIAL NO. 199

# THE ARCHITECTVRAL RECORD

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PERGOLA AND TERRACE—GARDEN AT BEACON HILL HOUSE," ESTATE OF ARTHUR CURTISS JAMES, ESQ., NEWPORT, R. I. OLMSTED BROTHERS, LANDSCAPE ARCHITECTS.

# THE ARCHITECTVRAL RECORD

APRIL, 1915

VOLVME XXXVII NVMBER IV


## The MEDIAEVAL MARKET PLACE of YPRES. AN IRREPARABLE WAR LOSS TO ARCHITECTVRE

BY C. A. T. MIDDLETON

THE bombardment and consequent destruction of Ypres, being a legitimate act of war, has not caused a shudder to pass through the civilized world as did the burning of Louvain, but it is quite doubtful whether the architectural loss has not been greater. No Gothic group of buildings in Europe, except that at Westminster, which owes much to the modern Houses of Parliament, could compare with that which the Grande Place of Ypres disclosed—the largest market square in Belgium, but by no means frequently visited by foreigners, who were more attracted to the flourishing neighboring towns of Bruges and Ghent, these being more generally accessible. Like Westminster, the group consisted of two great buildings only—the Cloth Hall and the Church of St. Martin—emphasized only by the juxtaposition and inclusion in the general mass of many works of minor importance, greatly differing from one another, yet in perfect harmony; and, as at Westminster again, the greatest building of all was not ecclesiastical.

The history of Ypres cannot be traced with certainty further back than the second half of the tenth century, when it consisted of a few houses grouped round a small castle on an island of the Yperlea (the river now so well known as the Lys); probably of similar character to several marshy islands still formed by the river, which almost wholly circles the town, along the lines of the moat of the middle ages, just outside the walls. It grew with great rapidity, for in a hundred years (a short space of time in those days for so much progress to be made) it had become quite an important town, a center of the cloth weaving industry, possessing two parish churches some dis-



FONT, ST. MARTIN'S CHURCH, YPRES.

tance apart; and within another hundred years it had become the metropolis of Flanders, with a population of no less than 200,000, not all cooped up in the narrow circuit of the walls but spreading out into suburbs, where a large home-weaving industry was carried on.

It was at this period of unexampled prosperity when the great Church of St. Martin—the most beautiful church in Belgium—and the even greater Cloth Hall, unparalleled amongst secular buildings of the Gothic era, were erected. Both of these have now almost wholly disappeared. The extent of the damage done can be gauged by comparing the general sketch of the group from the Grande Place, made in 1910, with the photograph taken from almost the same position recently, though the latter does not include so much as the former. It will be particularly noticed that the whole of the Hotel de Ville (locally known as the Nieuwercke) has been swept away.

Possibly, however, the loss which architecture has sustained can best be understood by describing and illustrating these buildings as they were before the war—as the writer has known them for a period of some twenty years, without material change till now.

The Church of St. Martin, generally known as the Cathedral, though it ceased to be the seat of a bishopric a long while since, was built on the site of another church which was begun in 1073. This, like many another Romanesque edifice, was demolished in the thirteenth century to make room for one more in keeping with the growing wealth and importance of the town, and the present choir was commenced in 1221. It was apsidal, without the usual chevet of chapels, and probably followed the plan and was built on the foundations of the earlier apse, if indeed this was ever entirely pulled down, for the arcading of the triforium was of early and severe Romanesque character, and externally the pointed lancet windows above (of almost English character) were continued in Romanesque arches. The cylindrical piers, with capitals whose foliage represent the broad leaves of the hart's-tongue fern, were typical of thirteenth century work, whether of Belgium or Northern France, but in themselves were not conclusive evidence of early date, for such are to be found occasionally in later work, and in fact occur, with scarcely any modifi-



INTERIOR OF ST. MARTIN'S CHURCH, LOOKING EAST.

cation, in the nave also, though this was not commenced till 1254, when it was pushed on rapidly, being finished twelve years later. The nave piers, however, differed from those of the choir in having statues protruding from them, in the same fashion as in the Cathedral at Malines, while in the choir statues were introduced above the capitals, where they had the appearance, though not the actuality, of serving as corbels for the vaulting shafts to spring from. The vaulting was all of the simple quadripartite character generally found on the continent of Europe, the filling being arranged as it would be in France; so that in all essentials the church was of French type internally, except for the absence of the chevet. Even the nave arches were almost unmoulded, having only a roll on the outer angle, while the inner order was chamfered, thus following the severe French fashion, which retained the Romanesque mouldings in all their simplicity till the end of the fourteenth century, in apparent ignorance of the elaborately beautiful groupings of undercut mouldings which were being evolved and gradually modified in England at that time.



CONFESSIONAL, ST. MARTIN'S CHURCH, YPRES.



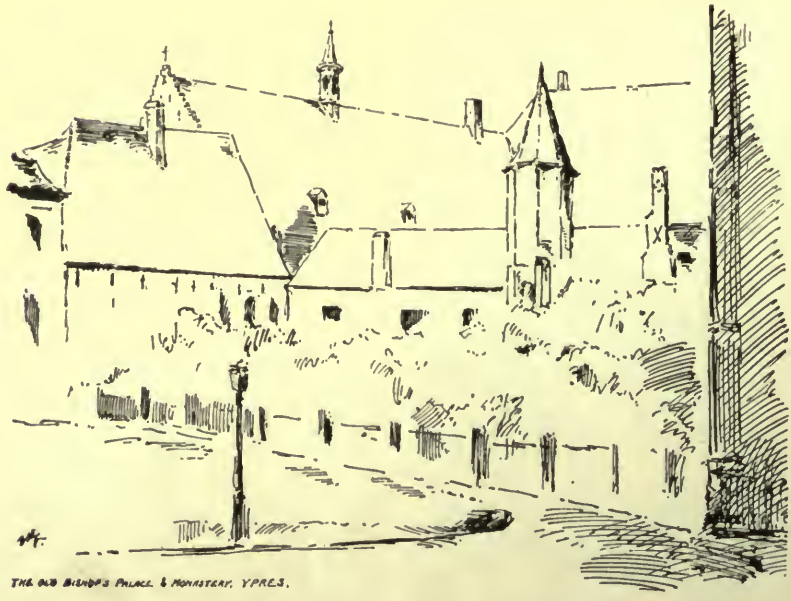
CHOIR STALLS, ST. MARTIN'S CHURCH, YPRES.

The church furniture, if one may judge from photographs of the remains, appears to have suffered less than might have been anticipated, for although the finely carved and unusually well restrained wooden pulpit, with its statue of St. Thomas of Aquin, and its heavy sounding board so cleverly constructed as to look as if it were floating in the air, have apparently all disappeared, the world-famous choir stalls seem to be intact. These were the work of the carver Taillebert, a native of Ypres, and were inserted in 1598, a date which would make them contemporary with the Jacobean work of England to which they are greatly superior, the only resemblance being in the generally low relief adopted. The bishop's throne, shown in the photograph, is a remarkably fine piece of work which well repays a close study.

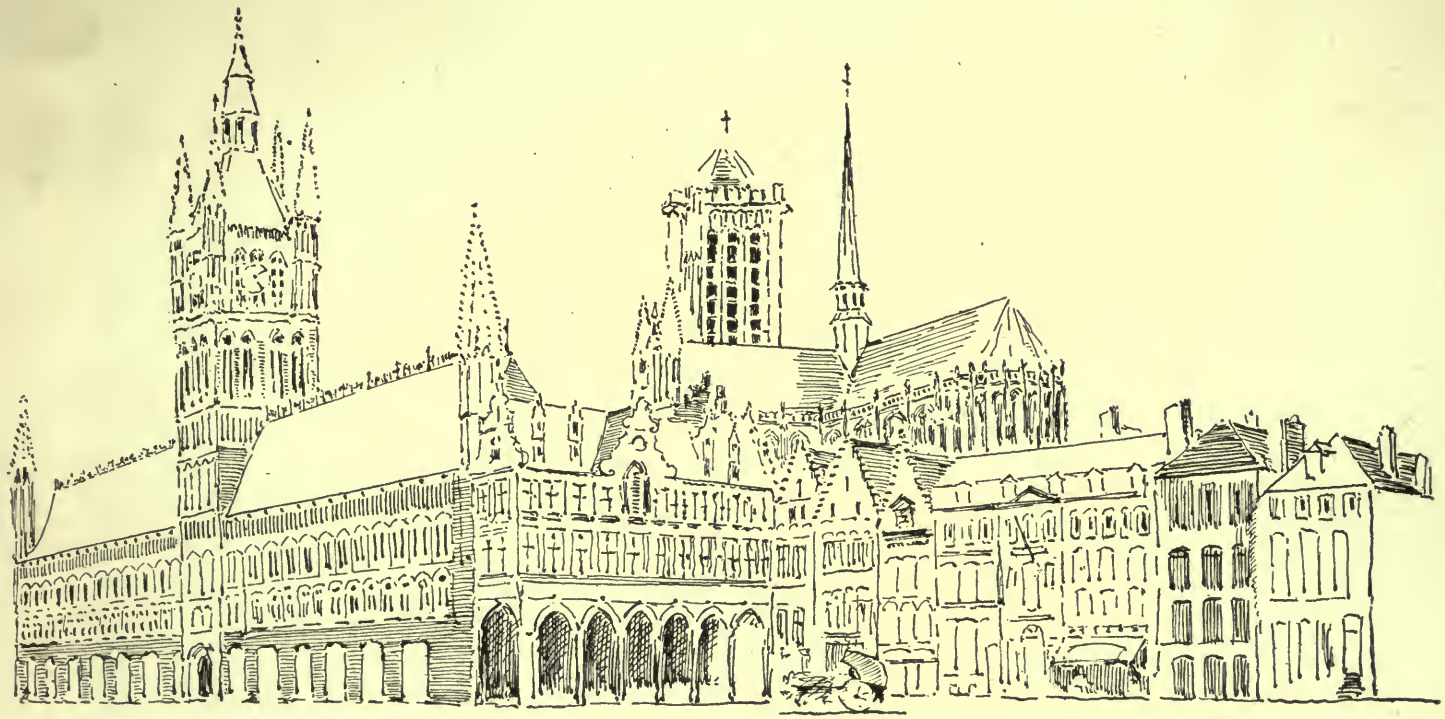
Just behind the choir stalls, and standing in the choir aisle, there used to be, and possibly still is, a confessional box of a later and more florid type of Renaissance, but so strongly influenced by the restraint of the choir stalls as to harmonize with them almost as perfectly as if they were the work of the same carver. The central (priest's) box has a low door




ST. MARTIN'S CHURCH, YPRES, AS IT APPEARED IN 1910.




THE OLD BISHOP'S PALACE AND MONASTERY, YPRES.

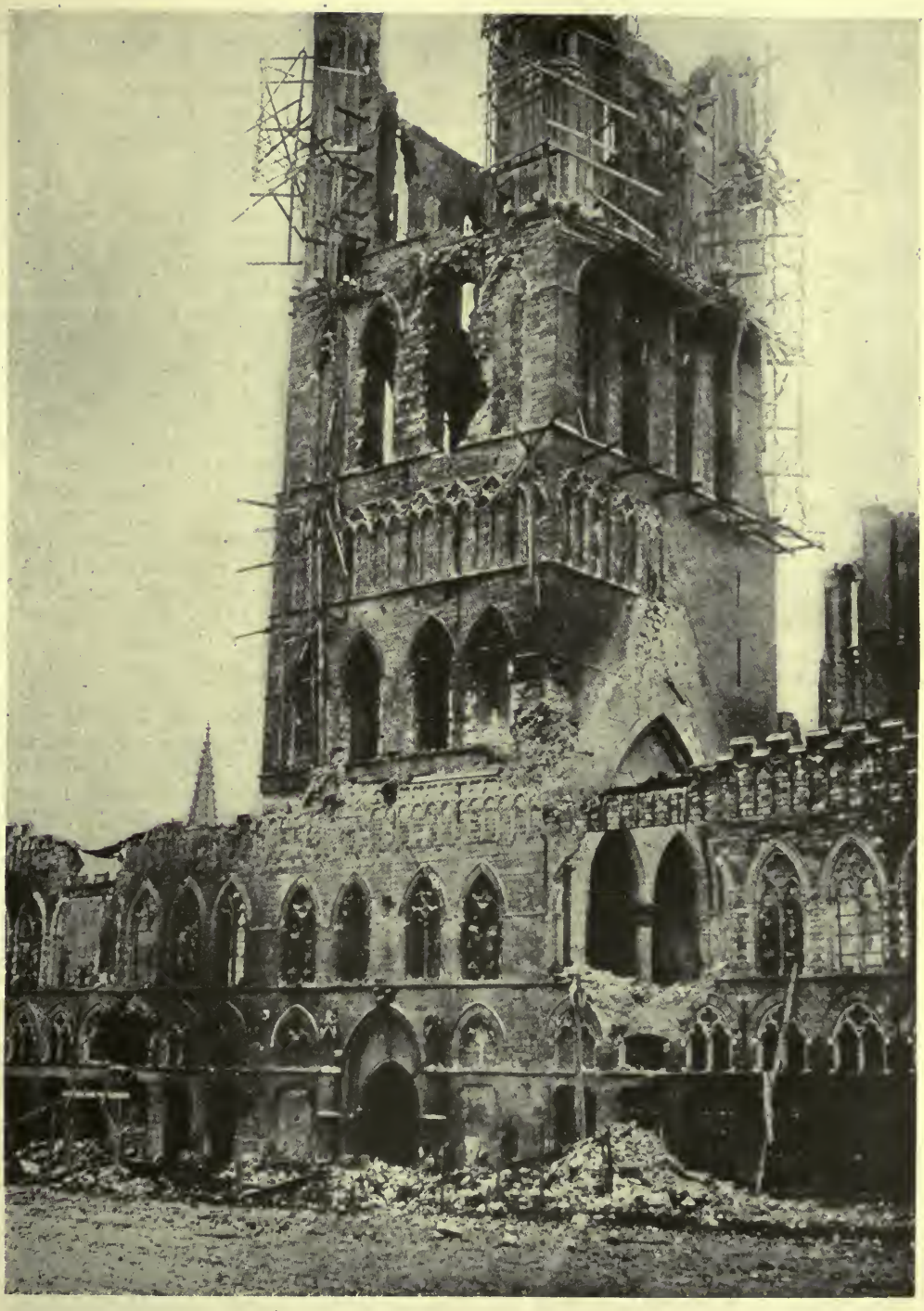



GROUP OF GOTHIC BUILDINGS ON THE GRANDE PLACE, YPRES, BELGIUM, PARTLY DESTROYED DURING THE PRESENT EUROPEAN WAR.



Photograph by
Newspaper Illustrations, Ltd.

RUINS OF THE CLOTH HALL AND HOTEL DE VILLE, TAKEN FROM THE GRANDE PLACE. ST. MARTIN'S CHURCH IN BACKGROUND.



Photograph by
Newspaper Illustrations, Ltd.

RUINS OF THE BELFRY OR CENTRAL TOWER OF THE CLOTH HALL ON THE GRANDE PLACE, YPRES, BELGIUM.



CENTRAL TOWER OF THE CLOTH HALL, YPRES, BEFORE BOMBARDMENT.

to it, and over the doorway a dove is shown descending, emblematical of the Holy Spirit.

Another notable piece of furniture was the font, with its cover, all of cast and hammered brass, generally massive in design but with delicately executed figures, three in number, acting as caryatid supports to the canopy of the cover; which, however, they do not really carry, for of course the cover is suspended (from an ugly iron swinging bracket). One was consequently tempted to criticize the design as conveying a wrong impression.

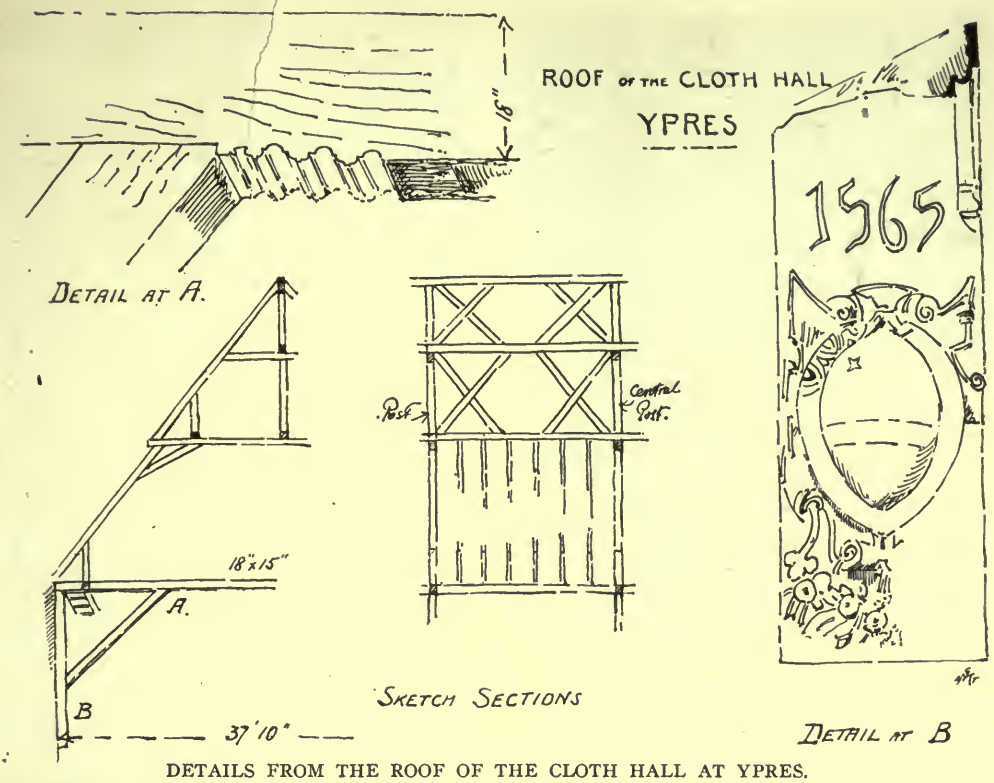
Close to the font, on the north side of the church, a door which few people were permitted to pass led into the cloisters of the old monastery, utterly neglected for many years past, forming a small well between the church, the monastery, and the Bishop's Palace. On the north side, where the cloister walk has been built over at a much later date with ugly brickwork, the work appears to be contemporary with the nave—that is, to belong to the second half of the thirteenth century; but the eastern walk is flamboyant in character, something like 200 years later. That the cloisters were in use within comparatively modern times, however, was indicated by the tracery being filled with commonplace glazing in wood frames.

Unoccupied, bare and cheerless as were the rooms of the monastery, their close investigation led to the discovery of a magnificent mediaeval, steep-pitched, timber roof, which it was possible to photograph above the level of the tie beam which carried the attic floor. It will be noticed that a secondary tie-beam, or collar, was carried on the extremities of lower principals, aided by brackets, while side brackets were also used, springing from the same lower principals, to carry the plates (or purlins). These upper principals were framed into the collars; and so it went on, till the ridge was reached. The position of the scarf in the purlin was worth noting, and altogether the construction deserved consideration, if only for curiosity in an age when such roofs would scarcely be repeated.

It was altogether exceedingly difficult to disentangle this group of buildings, which formed a picturesque medley of roofs, chimneys and turrets when seen from outside, butting up against St. Martin's tower, but at one time the Abbey of St. Martin, founded by Pope Pascal II in 1102, stood upon the site. It belonged to the Canons Regular of St. Augustine,



VAULTED MARKET UNDER THE CLOTH HALL, YPRES.




DETAILS FROM THE ROOF OF THE CLOTH HALL AT YPRES.

but where it commenced or ended, where the Bishop's Palace came in, or where "Poor Clares Convent" stood (also mentioned in connection with the same site) it would be difficult to say. Possibly the same area was devoted to several uses at different times.

Externally the tower of St. Martin's, an exceedingly fine piece of work of itself, was out of proportion with the rest of the church, for it was centrally placed at the west end and so wide as to encompass the whole width of the nave. Logically, in an architectural sense, this is right, for a fitting termination for the nave is produced, but it takes a very long church to carry such a mass as results at its extremity with any sense of fitness, even when, as in this case, much is done to lighten the effect by introducing tracery in the upper stages. There is also difficulty in introducing a commensurately sufficient doorway for a great church within the restrictive limits of a tower without apparently weakening its supports. This has been very well done indeed at St. Martin's, the necessary effect of strength not even being diminished by the introduction of a traceried window within the great enclosing arch of the doorway, and above the heads of the actual doors themselves, in place of the usual sculptured stone tympanum—treatment which, elsewhere, was only to be found at Reims.

The sketch of the east end indicates how admirably St. Martin's grouped with the Cloth Hall from this side, as well as from the Grande Place; yet, though erected at very much the same time, they were totally different buildings in architectural spirit as in use.

The Cloth Hall was commenced in the year 1200, when Baldwin of Constantinople was Count of Flanders, the first portion to be taken in hand being the central tower, or belfry, and the eastern wing, extending from it to the Grande Place. This was finished in 1230 and the work was not resumed till 1285, when the similar western wing was added, then turned northwards and then eastwards



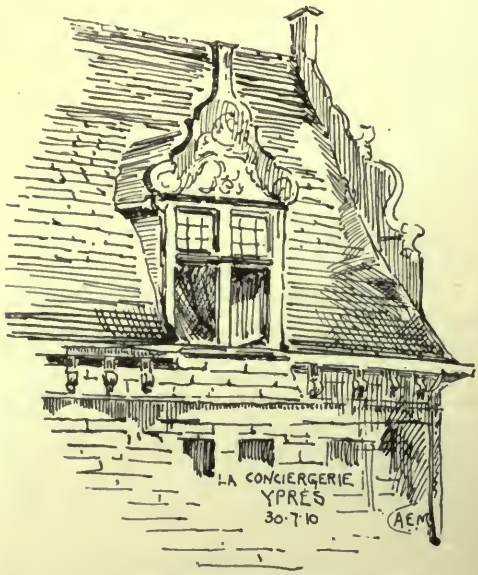
ROOF OF THE MONASTERY, YPRES.

again, all in accordance with the original design and forming the letter J on plan, the whole being brought to conclusion in 1304, rather more than a hundred years from the start. For simplicity and directness of design no mediaeval building could compare with it, perfect in balance, well proportioned, admirably held together and beautifully detailed. On the ground floor an arched passageway passed through the central tower while a large covered market extended along either wing, reached by numerous square-headed doors directly from the road and lighted by small traceried windows over them—the square tower openings going far to give an appearance of substantial strength to the whole building.

This market, with its curious groined vaulting of small bricks, supported by a row of octagonal pillars down the center, was unique.

The arcades on the upper floor, while appearing superficially to consist of a range of similar and evenly spaced windows, were alternately of glazed and of blind tracery, the "lights" in the blind arches being filled with statuary of high order; and a crenellated parapet fringed the eaves, breaking the harshness of the horizontal line without destroying its character.

Internally, the whole of the upper floor forms one huge room which, in addition to two returns, was no less than 433 feet long, though only 38 feet wide; redeemed from being too greatly extended in appearance by the rising of the tower arches across the centre, and by the grand open timber roof, in construction not entirely unlike that to the monastery, already described. It was, however, both richer and larger, as will be seen by the sketch section, while it possessed a most exceptional feature in the form of a trussed support to the ridge, like a double trellis girder in timber, which extended the whole length of the building, binding it longitudinally though greatly adding to the weight. The scantlings of the oak tie-beams, 18 in. x 15 in., with a span of nearly 38 feet, will be noticed; and so will the fourteenth century character of the mouldings wrought upon them at their junction with the brackets, though the Renaissance carving at the foot of some of the wall pieces, bearing date of the period of the Spanish occupation of the country, may indicate that repairs were undertaken then or possibly more




LA CONCIERGERIE, YPRES.

likely that a carver at that time set himself to enrich the older work.

It is a wonderful indication of the trade of Ypres that such an enormous room should have been needed for the annual cloth fair in the early part of the fourteenth century.

The Nieuwercke, or Hotel de Ville, containing the municipal offices, which stood at the east end of the Cloth Hall, facing the Grande Place, was built about 1620, it is supposed from plans made in 1575 by John Sporeman, an architect of Ghent. At any rate it was in the style of the Spanish Renaissance, light and picturesque enough, and an excellent foil to the severe Cloth Hall, but far from good in detail.

There must have been much small building, or at any rate of reparation work done at Ypres at about that date, for many an older front of cut brickwork, with four centred pointed arches to the window heads and stepped gables with curiously twisted finials, has had introduced into it somewhere a rectangular Renaissance window, often displaying the shell ornament conspicuously and with hopeless lack of any sense of balance.

Ypres has now fallen from its high estate and this sort of thing was only to be expected. It had received its first serious blow in 1383 when it was besieged by English troops acting in concert with the men of Ghent, the whole of the populous suburbs being destroyed. The cloth trade declined; it ceased to be the commercial metropolis of Flanders, but for the whole of another hundred years and longer it still remained a place of consequence. Then came the troubles of the Spanish occupation and it was sacked in 1566, 1578 and again in 1584, being reduced to a community of 5,000 souls. Then for two whole centuries it figured constantly in history as the scene of sieges, bombardments and captures, followed invariably by pillage and ruinous taxation, so that the wonder is that anything remained of its ancient glories. Yet, till quite recently, a fourteenth century timber house was standing, while the front of another had been re-erected within the great room of the Cloth Hall; and twisted gables, in wood and plaster, of the time of the Spaniards, contemporaneous with the English Elizabethan work and somewhat similar thereto, were not uncommon, as exemplified in the house known as the Conciergerie.

Another significant record of that important epoch existed at Ypres, and may




SHOP FRONT OF CUT BRICKWORK, YPRES.

possibly still be there, in the Museum. Philip II of Spain, launching his Armada against England and claiming the English throne from Queen Elizabeth as the husband of her predecessor, Mary, whom he had married as a child, had taken his bride's wedding chest to Flanders, ready for transport across the narrow seas as soon as his Armada should succeed. It failed, as all know, and the chest remained in Flanders and found its way to the Museum at Ypres.

Again Ypres has suffered devastation, more complete than any in its history of trouble, except that it has not actually been occupied by enemies; and some day we may confidently hope that it may rise again to at least a reasonable prosperity and accompanying architectural importance.



ANTIQUE URN—GARDEN OF RUSSELL A. ALGER, JR., ESQ., DETROIT, MICHIGAN.



PERGOLA—GARDEN OF CHARLES W. HUBBARD, ESQ., WESTON, MASS.
Olmsted Brothers, Landscape Architects.

# RECENT ASPECTS of GARDEN DESIGN

BY HAROLD·D·EBERLEIN

FROM a critical examination of the results of modern garden design may be learned many a valuable lesson. What is of greater and more specific import, if we are alert to apply the principles to be deduced from such a discriminating survey of the subject, we can scarcely fail to arrive at an attitude that may readily be translated, through well considered choice, into wisely constructive action.

Garden planning is both an art and a science and has ever been regarded by the more thoughtful as a worthy object of serious and sober endeavor. As such it is based on certain fundamental principles and it is absolutely essential that these principles be kept always in mind as a safeguard and check to ensure sanity of design and execution. No more illuminating instances of the application of these principles can be adduced than the work accomplished within several decades past by the foremost designers of gardens in America. At the same time, it will be well to direct attention to certain aspects of garden design both past and present in England, whence so many of our own garden traditions are derived, and afford grounds of comparison with the best of contemporary British achievement.

To understand the rationale of garden making, it is necessary at the very outset to recognize the two elemental purposes for which gardens were first made and for the fulfillment of one or the other or both of which they are still contrived. Those two elemental purposes are utility on the one hand and pleasure or adornment on the other. We must keep account of both if we would

follow intelligently the development of garden planning and fully appreciate modern aims and performances, in the light of history, as the results of an orderly evolution from worthy antecedents. The ancestor of our modern garden was designed in its "utility" capacity as a proper place for the cultivation of fruits, the raising of vegetables requiring protection and careful culture, such as were not wont to be sown in bulk as field crops, and the growing of sundry herbs and simples. In other words, the garden in its utility capacity was a kitchen garden. In its capacity as a place for pleasure, adornment, outdoor relaxation and the raising of plants and flowers for the gratification to be gained from their beauty or perfume, the ancestor of the modern garden was also a highly important institution. Indeed, in Tudor and Stuart days people were accustomed to spend a great deal more time in their gardens than did succeeding generations and it is only within recent years that we have regained an equal love and practice of garden life. How fully some of our forebears used their gardens may be gathered from what we read of Sir Thomas More's garden in Southwark, where, on Sunday afternoons, were wont to gather and walk to and fro, notable persons come to see the great Lord Chancellor, along with belles and beaux arrayed in brave attire, to listen to the music and see the strange animals and birds, of which Sir Thomas had a small menagerie, being the gifts of mariners and travellers from far distant lands. Other historic gardens were nearly as famous and quite as fully used as that of the author of "Utopia."

The dual functions of the garden for utility and pleasure were closely blended in a way that may seem a trifle incongruous to some of us. In many instances it would be hard to say just where the boundary line was to be drawn. The growing of simples seems to have formed a kind of connecting link, for at one time it was the custom to cultivate various plants for their medicinal or domestically utilitarian properties which we now raise merely for their decorative value. Among such, by way of example, may be mentioned digitalis and the marigold, the dried petals of the latter being used both to make a dye and as a flavor and coloring matter for soup. In whatever way the prosaic and ornamental functions of the garden may originally have been joined, the complete union was to be found in old English and Dutch cottage gardens and also in some gardens of greater extent and pretense where fruits and shrubs, vegetables and flowers, were grown together in a kind of promiscuous democracy. However crude their method may have been, the makers of those humble gardens were trying to express a right principle. They were trying to realize, albeit unconsciously, the old Greek ideal of making the useful beautiful and, conversely, the beautiful useful, according to the utilitarian and somewhat material modern standard. We find this same combination, this same intimate connection between kitchen garden and flower garden, existing in many of the finest of our early American gardens. An instance of it occurs at Ury House, Fox Chase, Philadelphia, a part of whose famous old box garden is shown in one of the accompanying illustrations. The vegetable garden with its beds edged with box of nearly two centuries' growth, is just across a box-bordered, trellised walk from the flower garden, laid out in all the old-fashioned glory of geometrical devices. This principle of rendering the homely vegetable patch seemly, attractive and dignified by an accompaniment of flowers, fruit bushes and shrubs commingled with its beds is strongly reasserting itself in modern garden planning. It is extremely narrow minded to look with despite upon a vegetable because it is not a flower and condemn it to a hideous and shabby setting. The modern garden designer is keenly alive to this feature and devotes much ingenious effort to making the kitchen garden a help rather than a hindrance to the general scheme. He masks, by judicious planting within its limits, the unavoidable scars and unsightliness incident to certain stages of vegetable-growing. Were this principle not being so strongly reasserted that it demands cognizance,



ANTIQUE GARDEN FURNITURE—GARDEN OF HAROLD McCORMICK, ESQ., LAKE FOREST, ILL.
Charles A. Platt, Architect.



PERGOLA—GARDEN OF WILLIAM MATHER, ESQ., CLEVELAND, OHIO.
Charles A. Platt, Architect.

the foregoing paragraph would have merely antiquarian interest and be devoid of any particular application.

In yet another point a number of modern gardens show a reversion to an ancient precedent and hark back for inspiration to an almost forgotten custom, and people hail with admiration and delight what they deem an agreeable novelty. Reference has been made to the small menagerie in Sir Thomas More's garden. In other private gardens, too, both in England and on the Continent, it was not an unusual thing to find occasional collections of rare birds or small animals. The custom, however, seems to have almost died out and been well nigh forgotten. Now it has been revived again and the maintenance of an aviary of rare and curious birds has been made a feature of both permanent interest and decorative value in one of the gardens illustrated, that at Doylestown, Bucks, Pennsylvania. Although the open air aviary is not shown, it occupies a conspicuous place all along one side of the garden. Another modern garden in which the keeping of exotic birds is made an important feature of interest is that of Mr. Mellen at Stockbridge, Massachusetts. Other instances might be added, but the two already mentioned are sufficient to indicate a modern trend in garden arrangement derived from ancient precedent.

In the gardens selected for the illustration of the present article are to be noted two distinct tendencies which are highly significant and indicative of opposed present-day ideals of garden making. In the instances before us neither tendency is carried to an extreme and, in some cases, notwithstanding the dissimilarity of the several underlying conceptions, we may discern certain devices and methods of treatment common to both schools of design. The two tendencies referred to are, on the one hand, the obvious intent to impart an intimate and even personal character to the garden, stamping it unmistakably as a place created for comfort, privacy and domestic informality, while, on the other, the purposes of formal or semi-formal and wholly impersonal environment or setting for the house have been the chief factors in determining the arrangement. As fairly representative examples of the former category, that is to say, the gardens whose intimate character supplies their dominant note, one may refer especially to the walled garden at Doylestown, and the garden of Charles W. Hubbard, Esq., at Weston, Massachusetts, executed by Olmsted Brothers. As typical of a somewhat more formal and pretentious style of garden planning, designed as an accompaniment to the house or a setting to display it to advantage rather than as an adjunct for the intimate daily pleasure and protected occupancy of the people who live in the house, we may examine the garden of Samuel Vauclain, Esq., at Rosemont, Pennsylvania, by Messrs. Duhring, Okie and Ziegler, or the garden by Olmsted Brothers, illustrated on p. 309. The intimate type of garden seems to be gaining more and more popular favor as American garden ideals tend to coincide more fully with the conception on which it is based. The majority of garden owners are happily getting beyond the stage where they desire gardens planned to impress the approaching stranger by their starched, smug, symmetrical ostentation. At the same time, while the garden of the intimate type is strongly expressive of the best traditions of American life by its well-bred informality, it makes use of not a few material accessories of the distinctly formal garden and in this employment of the same means lies the common ground of both types. The intimate garden, however, uses both architectural and furnishing accessories in an easy and informal way.

The manner of treating the garden plan depends upon the conception of what a garden is and of the purpose for which it exists. Opinions upon this point will inevitably differ among different individuals, but the general trend of sentiment, put into specific words, indicates that the garden of the average house is to be regarded as a necessary adjunct to the structure to give it a proper setting and display its architectural worth to advantage, a spot set apart for the enjoyment of the air and the pleasures of horticul-



PERGOLA—GARDEN OF CHARLES W. HUBBARD, ESQ., WESTON, MASS.
Olmsted Brothers, Landscape Architects.



PERGOLA—GARDEN OF ARTHUR CURTISS JAMES, ESQ., NEWPORT, R. I.
Olmsted Brothers, Landscape Architects.



WALLED COURT AND PERGOLA—GARDEN OF CHARLES W. HUBBARD, ESQ., WESTON, MASS.
Olmsted Brothers, Landscape Architects.



GAZEBO—GARDEN OF CHARLES W. HUBBARD, ESQ., WESTON, MASS.
Olmsted Brothers, Landscape Architects.



GATEWAY—GARDEN OF ARTHUR CURTISS JAMES, ESQ., NEWPORT, R. I.
Olmsted Brothers, Landscape Architects.



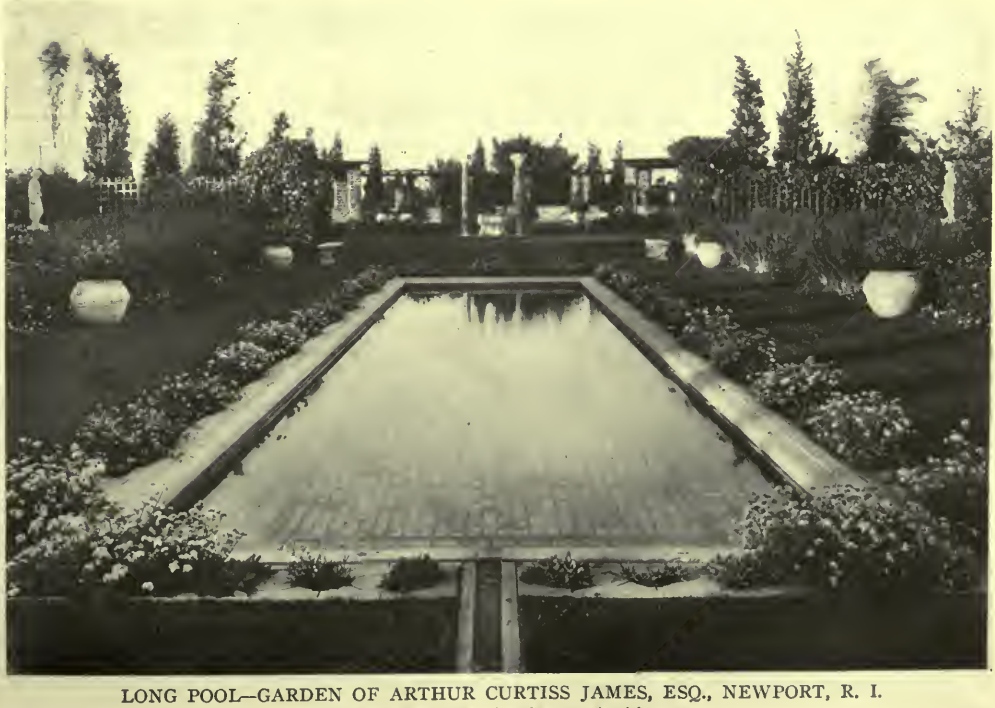
GAZEBO AND PERGOLA—GARDEN OF CHARLES W. HUBBARD, ESQ., WESTON, MASS.
Olmsted Brothers, Landscape Architects,

ture, a middle ground between the dwelling and the outside world, a guaranty of privacy and protection. From the etymology of the word, "garden" denotes an enclosure and implies the presence of a wall or some protecting barrier. Furthermore, history shows an inseparable association between this enclosure and the cultivation of vegetables, fruits or flowers. As the very basic idea of a garden, therefore, presupposes cultivation and fostering care, it can readily be seen that the evidences of human artifice therein are unavoidable, that it would be impossible to crowd rustic landscape effects within a restricted compass and that the attempt to do so could only be ludicrous. Artifice, then, and at least some measure of formality, however slight, being involved in the creation of a garden, it is eminently fitting and reasonable that an architectural element should be employed to supply the formal frame or background desired and strengthen the tone of unity binding garden and house together. The extent to which architectural gardens and parks must be kept separate will be governed by the exigencies of each case and the architectural tone of the garden will naturally be kept consonant with that of the house. Not only is it interesting to note the success realized in the treatment of many gardens where some measure of formality, in the shape of architectural adjuncts, has been combined with a thoroughly informal scheme of planting, but it is also instructive to mark the reserve and restraint practiced in using only so much architectural equipment as the occasion requires for practical ends and no more. In this moderation lies the cause of the combination's agreeable result, and it is often astonishing to see how rich a variety of effects can be attained by employing only a limited number of features. The accompanying illustrations show how successfully sundry architectural devices have been used in gardens of distinctly intimate and unostentatious type. We need only point to the delightful arrangement of the gazebo or tea-house, of which several views are given, in Mr. Hubbard's garden at Weston, the interesting treatment of the walled pergola and court in the same garden or the telling touch added by the dovecote in Mrs. Riddle's garden at Glen Riddle, Pennsylvania, a creditable piece of garden designing executed by Messrs. Duhring and Howe.

Allusion has been made to the conception of a garden as a place of privacy. In this view of the garden, making it virtually an out-of-doors extension of the house, we are rapidly coming to coincide with our British contemporaries, to whom the bold publicity of so many American gardens is utterly abhorrent. If there is to be any real privacy, the garden enclosure must be of such character that it will be a protection. It must either be an exceedingly thick hedge or a wall and of a suitable height. A wall to enclose a garden, either wholly or in part, emphasizes the architectural bond of relationship with the house more strongly, perhaps, than any other one feature. At the same time, it affords numerous and varied opportunities for interesting treatment, as the reader may judge from the illustrations of the walled gardens at Doylestown and elsewhere. When the walls are not given any distinct architecturally decorative value, "planted" or espaliered for fruit, they at least serve the double purposes of shelter and background or foil for the blooms and foliage near them. If the walled or partly walled or semi-formal garden is really to be lived in and its close relationship to the house bound by a thousand little ties of human occupancy, it must be fitly furnished and equipped for comfort. Otherwise one might as well camp on a wide stretch of lawn in the midst of great plantations of shrubbery, groves of trees and all the other devices of the landscape engineer that go to make up a park, but have no place in a garden. Man naturally seeks to surround himself with articles of comfort and pleasure within easy reach and their presence and orderly arrangement necessarily create at least some slight measure of artifice and formality. A garden, properly arranged with due regard to its intimate relationship with the house, is ready for use by the occupants at any and all times while, to use a landscape, one needs to prepare a picnic equipment. One of our chief troubles in



WELL—GARDEN OF ARTHUR CURTISS JAMES, ESQ., NEWPORT, R. I.
Olmsted Brothers, Landscape Architects.



LONG POOL—GARDEN OF ARTHUR CURTISS JAMES, ESQ., NEWPORT, R. I.
Olmsted Brothers, Landscape Architects.



POOL AND TEA HOUSE—GARDEN OF SAMUEL VAUCLAIN, ESQ., ROSEMONT, PA.
Duhring, Okie & Ziegler, Architects.

garden planning is that we so often fail to make a sufficient distinction between a garden, on the one hand, and its suitability for intimate use in connection with the house, and a park, on the other, with its landscape features. Consequently we sometimes try to have landscapesque gardens or gardenesque landscapes, and the combination is incongruous and unsuccessful. To get satisfactory results gardens and parks must be kept separate in execution as well as in conception.

In all the phases of gardens so far noted, whether designed for utility, pleasure, adornment or curious interest, one quality may be clearly discerned—obvious relationship with the houses to which they belong. This relationship is far stronger than it is between some houses of earlier date and their gardens, when pictorial landscape effects were in fashion and attempted on all scales, large and small. Before all else, it is of the last importance that we realize fully the fundamental principle of relationship that ought to exist between the garden and the house. It is only when this relationship has been recognized and conscientiously honored that results have been successful. English gardens laid out in recent years almost invariably show a proper and logical relation to the houses they surround, and in that particular are deserving of special study. A sense of fitness has been observed in their design, and from the resultant quality of felicity we may derive a store of inspiration. The success of a garden depends almost wholly upon this right relation, and where it is absent, no matter how excellent individual parts of the composition may be, the effect of the ensemble is bound to be disappointing if not a total failure. The intimate relationship between the house and its setting exists quite independently of the consideration of natural features or the lie of the land. It consists of the degree of correspondence maintained between the modes of expression made use of in the garden and in the scheme of the house and is susceptible of indicating just as much individuality of character as does the fabric of the structure itself. Over and above the relationship between



DOVE COTE—GARDEN OF MRS. SAMUEL D. RIDDLE, GLEN RIDDLE, PA.
Duhring & Howe, Landscape Architects.



TERRACES—GARDEN OF MRS. SAMUEL D. RIDDLE, GLEN RIDDLE, PA.
Duhring & Howe, Landscape Architects.



PERGOLA AND FOUNTAIN—GARDEN AT DOYLESTOWN, BUCKS, PA.



GRASS WALK AND PLANTED WALL—GARDEN OF DR. GEORGE WOODWARD, KRISHEIM, ST. MARTIN'S, PHILADELPHIA.
Olmsted Brothers, Landscape Architects.



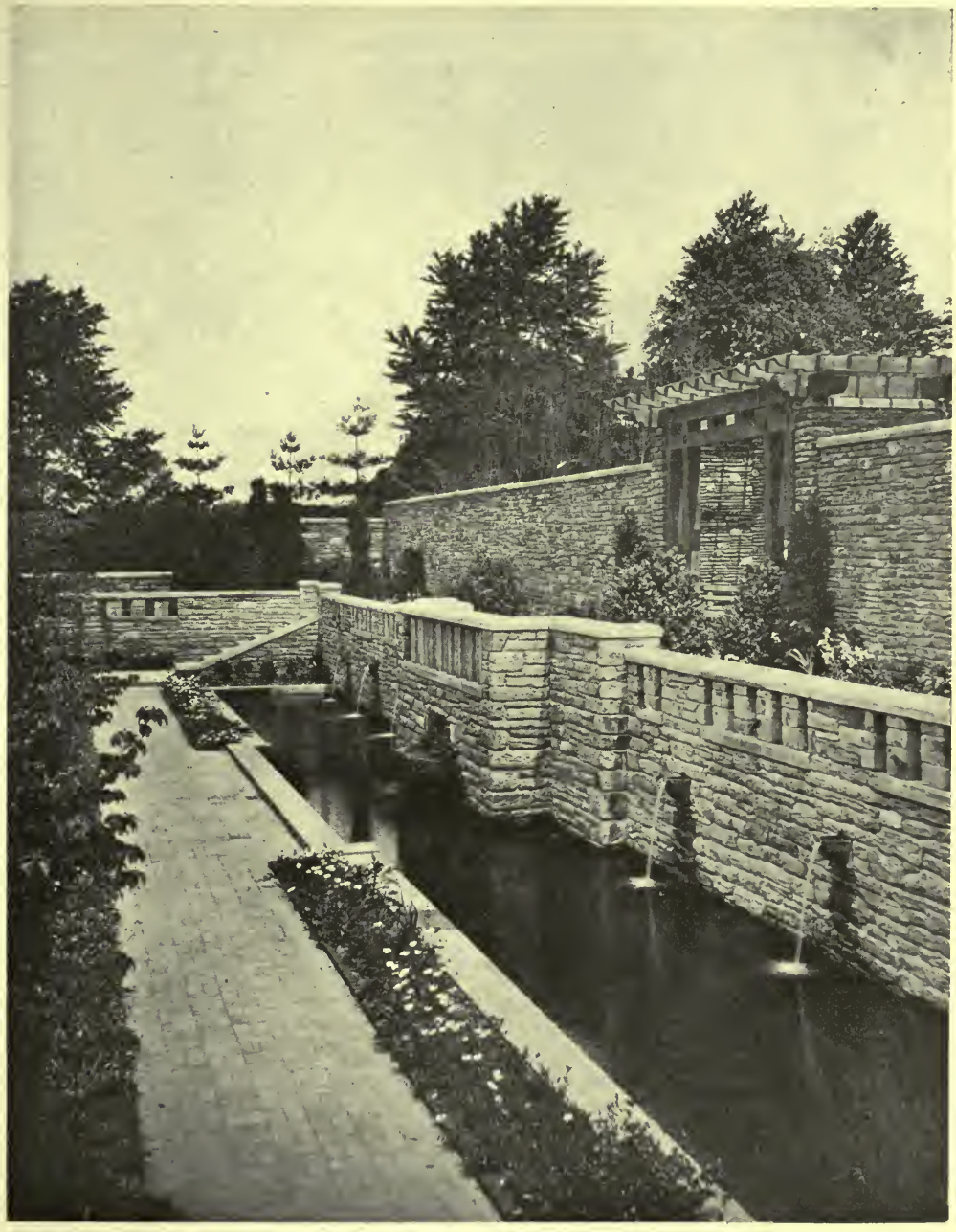
PLANTED WALL—GARDEN OF DR. GEORGE WOODWARD, KRISHEIM, ST. MARTIN'S, PHILADELPHIA.
Olmsted Brothers, Landscape Architects.

the plan of the garden and the style of the house, must be reckoned the inevitable relationship between the garden and the natural features of the land on which it is laid out. The preservation and due balancing of this duality of relationships, while furnishing many perplexing problems, also afford rare opportunities for the display of originality and skill.

The secret of British pre-eminent success in their particular method of dealing with gardens lies largely in making a judicious combination of formal and informal elements. Such men as E. T. Lutyens, Sir Robert Lorimer, Ernest Newton, Reginald Blomfield, Guy Dawber, Blow and Billery, E. Turner Powell and a number of others, whose names might be added to the list, have been singularly fortunate in giving just enough formal or architectural treatment as a setting for gardens, whose general composition is somewhat informal in plan and execution, to establish firmly the unity of the garden and house as one indivisible whole. Many of the modern English gardens designed by the more prominent architects might be characterized as examples of formality in an irregular setting or informality in a formal setting. The designers have not only shown a conscientious regard for the basic relation of garden to house, but they have also preserved an admirable degree of unity and consistency in the management of the garden itself. They have shown a sense of fitness and proportion and have not introduced irrelevant or inappropriate features. If a balustrade, a flight of steps, a pool, a wall fountain, a gazebo, a leaden figure, a sundial, a terminal bust, or any one of a dozen other possibilities—all savoring in greater or less degree of formality—be employed, one may be reasonably sure that there is some logical and often intensely practical reason for having them just where they are placed and that sooner or later that reason will become apparent. We find the same discriminating choice and judicious arrangement in many of our recently planned American gardens and it is gratifying to note that these characteristics are becoming more general among us.

Sometimes one of these features may be used to emphasize a certain desirable view or aspect—witness the low enclosure and the tea-house in the Hubbard garden—to give balance or accentuate proportion, sometimes the motive may be to subserve the demands of convenience and sometimes, we shall find, the purpose is either to disguise and beautify some object which it is neither desirable nor practicable to remove or to overcome some difficulty presented by the natural conditions of the site. Time and again necessity has been made a virtue in this latter respect and, in considering the natural configuration and characteristics of the site preparatory to beginning operations, a large measure of individuality has often been secured by adapting the plan to the peculiarities of the situation instead of sweeping them aside at great expense and much labor to make way for a scheme of tame and unconvincing conventionality. We may, indeed, say that one of the most important factors that has contributed to the great success of the more recent gardens is the systematic practice of the principle of congruity—in other words, this very method of studying conscientiously, first of all, the natural conditions of the ground, the lie of the land and the exposure and then making the garden plans conform as nearly as possible to the requirements thus indicated without attempting drastic alterations.

It would seem to be the part of ordinary common sense to cultivate any natural feature which imparts strong individuality instead of endeavoring to destroy it or tone it down, but despite the obvious propriety and advantage of such a course, it is a matter of almost daily occurrence to see the policy of ruthless levelling in operation with its inevitable destruction of rare opportunities for the display of ingenuity and good taste. In their delightful book on gardens for small houses, Mr. Lawrence Weaver and Miss Jekyll pertinently observe that if the natural features of a garden-site are "emphatic or in any way distinct, they should be carefully maintained and fostered. It is grievous to see, in a place that has some well-defined natural character, that char-



POOL AND JETS—GARDEN OF DR. GEORGE WOODWARD, KRISHEIM, ST. MARTIN'S, PHILADELPHIA. OLMSTED BROTHERS, LANDSCAPE ARCHITECTS.

acter destroyed or stultified, for it is just that quality that is most precious." This side of garden-planning is one of the aspects that needs most encouragement and development among us in America. By following intelligently the course suggested by nature we may be sure of obtaining the most harmonious, dignified and enduringly satisfactory results. In other words, if nature's fullest help is to be gained, she must be courted, not bullied. "Many a site," continue the authors just quoted, "has been vulgarized by a conventionally commonplace treatment," a statement with which most readers familiar with the situation will be disposed to agree.

By a natural sequence of thought, one passes from considering the plan of the garden, with reference to the natural features of the site, to considering the placing of the house itself with reference coincidentally to the site and to the scheme of the garden. In this matter too many of us are slaves of habit. It cannot be denied that we have an unfortunate obsession for placing the house squarely in the middle of the property, no matter what the exposure, no matter what the outlook, no matter what the lie of the land. We are still in the toils of an odious thraldom to the senseless mid-Victorian convention of having a "front approach." A few bold spirits —the time is coming when more will show the same laudable daring—have disregarded meaningless conventions and put the backs of their houses directly upon the road, or at the very corner of their lot, if it suited their purpose to do so and gave them a better chance of making their garden a success. This is exactly what some of the most successful English architects, like Mr. Lutyens, have done time and again and the results have thoroughly justified their defiance of baseless traditions. It is only by showing a proper consideration for the natural features of the location in such cases that we shall arrive at a satisfactory solution. It may be well enough to dress for others, but certainly one's house ought to be built primarily for one's own satisfaction and not for the commendation of an unthinking and convention-ridden public. In this connection it will not be amiss to suggest the propriety of placing a house on the boundary line of the property if conditions call for it so that the garden may stretch away to the south, west and east and have the exposure most favorable to its development.

While it is by no means an unusual thing still to meet with gardens made ostensibly for show and lacking all trace of homelikeness, gardens perpetuating the uninspired fashion of twenty-five or thirty years ago and only one degree better than the depressing "landscape" lawns abounding in cast iron dogs or beasts of the chase, passant, couchant or regardant or the terra-cotta representatives of the Greek or Roman pantheon, disposed as agreeable "surprises" amid island clumps of shrubbery or ranged against backgrounds of obviously artificial "bosky tangle," gardens arranged, in short, with blatant vulgarity, "where everything that money can do to spoil nature" has been done, nevertheless, the general tone of garden design has perceptibly and rapidly changed for the better, thanks to the wholesome leaven of the labors, during the past two decades, of such men as the Olmsteds, among landscape gardeners, and, among architects, Charles A. Platt, Wilson Eyre, Little and Browne, McKim, Mead and White and many more who have conscientiously stood for sound principles until the present average excellence of garden-planning has come to pass and popular taste has been tutored to a high measure of appreciation. Although the work of each man bears, in some degree, the impress of his personality, one may readily recognize the presence of traits common to all of them and all of them make their plans with due regard to the comprehensive analogy between architecture and gardening manifested in the correspondences between the several architectural styles and contemporary fashions in garden design. Also, in nearly all of the better work we find the grateful merit of simplicity.

To a consistent devotion to simplicity we doubtless owe it that modern examples of garden-planning have generally escaped the absurdities of formalism



OLD BOX GARDEN—URY HOUSE, FOX CHASE, PHILADELPHIA.

which the gardens of the eighteenth century so often fell into, absurdities that Horace Walpole flayed when he wrote of "canals measured by the line, .... terraces hoisted aloft, .... giants, animals, monsters, coats of arms and mottoes, in yew, box and holly" and added that "the compass and square were of more use in plantations than the nurseryman." Where a real, formal treatment has been adopted it has, in most instances, been characterized by a reasonable restraint and freedom from finicky inanities. Whether one likes formal gardens or not, fairness compels the admission that, as architectural constructions they often possess the great merit of consistency in their relation to houses of certain types whose outlines they serve to break and gradually to soften and that they thus form an agreeable "connection with the irregular and unstudied forms of meadow and forest beyond." They are often, in other words, connecting links or middle-grounds between houses and the landscape. While professedly formal gardens not infrequently occupy a considerable extent of ground on large estates, it often happens that honors are divided and the formal garden limited in space so that more space may be given the development of the informal garden. An excellent example of this arrangement is to be found at "Krisheim," St. Martin's, Philadelphia, illustrated on pp. 313 and 315. In executing this garden the Messrs. Olmsted have confined the formal section to a comparatively limited area adjacent to the north wing of the house and have constructed all the walls, terraces, retaining walls and other architectural features of the native Chestnut Hill stone so that both material and texture of masonry conform to that employed in the house.

In the rest of the estate, which is treated informally, the designers have followed the sound principles of accepting natural features for what they are worth without trying to change them by expensive and usually ill-judged alterations, of using the native material ready at hand and, finally, of using native trees and shrubs, getting excellent effects with them and confining such exotics as may be used to the bounds of the formal gar-

den. Dogwoods and other native trees of a decorative character have been added in the thickets and the open hillside has been covered with a tangle of sweetbriar and honeysuckle where it would be hopeless to have presentable grass. The retaining wall has been built "dry" and planted with a variety of rock plants, some of which are in bloom most of the time. The practice of planting "dry" rock walls has become exceedingly popular within the past few years and must be reckoned one of the most effective devices of modern informal gardening.

At this point it will be appropriate to call attention to the praiseworthy practice, all the time gaining in popularity, of procuring some object or group of objects of unusual artistic merit and making them focal points of interest in the formal garden, whether it be small and walled and intimate in character like the Doylestown garden, with its Florentine fountain, Calabrian oil jar and decorative plaques and medallions set into the wall or whether it be open and extended and meant for the public to gaze upon like the garden shown on p. 309, with its flaring well kerb, wrought iron cover and four exquisite flanking Venetian columns with ornate capitals, or the garden terrace shown on p. 303, with its ancient carved marble seats, pedestals and jars.

One other phase of the modern garden must be adverted to—the treatment to be accorded to the small plot of the house of modest size and particularly the house of either Georgian or Colonial type, which enjoys such general favor.

A degree of formality, or rather, to be strictly accurate, a degree of artificiality or symmetry, is quite compatible with the acceptable treatment of a small garden and it was such formality, tempered with taste and common sense, that the gardens of many of our American Georgian houses displayed, gardens with gravel paths and grass alleys laid out with mathematical precision in geometrical patterns, outlined with box hedges or shut in between box-edged flower borders in which old-fashioned blooms, stately and humble side by side, crowded each other in promiscuous informality within a formal setting. Such is the box garden of Ury House, Fox Chase Philadelphia, previously alluded to, which has been the pride of its owners for nearly two centuries. Such also are many other modest but stately Georgian gardens in our older Eastern States, cherished intact by their owners with reverently punctilious affection, enduring witnesses of the best gardening traditions of the eighteenth century, their trim exactitude marked here and there by a well-placed marble statue or classic urn, or, perhaps, a sun-dial or flight of balustraded steps—just enough evidences of formality to preserve the tone of unity and relationship between the garden and the house and cement the correspondence between the urbane atmosphere of one and the architectural urbanity of the other.

There is no necessary relationship between size and formality. Many a small garden is successfully formal — the American Georgian examples prove it— while not a few large formal gardens are complete failures. A small garden, within really strait limits, may be rigidly formal and dignified and likewise thoroughly satisfying, much more so, in fact, than some other gardens in the same vein where there has been no hampering limitation of space. From the modest American Georgian gardens, therefore, we may derive not a little present inspiration and learn a lesson in the art of attaining an agreeable unity and fit relationship between the structure and its immediate setting. In view of our present partiality for Georgian domestic architecture for houses both large and small we cannot afford to overlook the manner and plan of our own eighteenth century horticultural achievements, especially since it is obvious that a treatment in some later fashion would have impaired the architectural charm of the house which is always dependent on its immediate environment to appear to the best advantage. In instances where such later gardening fashions have replaced the original treatment, the result has not been reassuring.

Architects are coming more and more to include a scheme for the garden, along with the plan of the house and outbuild-



WALLED GARDEN—HOUSE AT DOYLESTOWN, BUCKS, PA.

ings, in the lay-out of the property prepared for the client, no matter how small the property may be. The practice is logical and sane and based on a realization of the close and necessary relation of the garden to the house and their dependence on each other for the best effects of which each is capable. Sometimes the garden scheme in these renderings is merely a rough, tentative sketch, at others it is worked out in full and careful detail so that little is needed in addition from which to direct further operations. In either case, and whether the architect himself supervises all the minutiae of garden-making and furnishing or entrusts them to a landscape engineer, the growing tendency to regard garden and house as one composition is full of promise for the future. One thing, however, must be kept in mind. No matter how skillfully the architect may design the garden, no matter how conscientiously he may superintend the planting—and many architects, be it remembered, have a wide knowledge of plants and flowers and their habits and colors—the responsibility for the ultimate success and lasting charm rests upon the client. The architect may supply walls and steps, pools and fountains, pergolas, tea-houses, gazebos, exedrae, arbors and a dozen other devices, but unless the client bestows the constant and devoted attention upon the planting which the intimate nature of the garden demands, the result will not be happy. A garden must be coaxed, humored and caressed, not bullied or condemned to cold neglect. There are clients, as architects know only too well, who expect to have a garden planted at the outset and then be kept running with a minimum of attention from a hired gardener. Their own personal interest they completely withhold. Such *laissez-faire* gardening can never be a success and a garden subjected to it will always look cold and starved in spite of all the initial efforts of the architect.



MAIN LOBBY, LOOKING TOWARD OFFICE LOBBY—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



ASSEMBLY HALL AND ELEVATOR LOBBY.

# The Hotel Statler in Detroit

## Geo B. Post & Sons, Architects

### By W. Sydney Wagner

THE recent opening of the Hotel Statler in Detroit, Michigan, has given that city a hotel notable for modernity, completeness and studied architectural embellishment. It is the third and largest of the very remarkable hotels built, owned and operated by the Hotels Statler Company, and is the second hotel of this company to bear the name of Geo. B. Post and Sons as architects, the first being the Hotel Statler in Cleveland.

To those specially interested in hotel management or construction, a careful examination of the illustrations published herewith will reveal an unusual number of interesting and novel features for efficient and economical service.

Fronting on Grand Circus Park, one of the most beautiful of Detroit's many parks, and bounded on one side by Washington Avenue and on the other by Bagley Avenue, the segmental shape of the site, added to the exacting requirements of modern hotels of the first class, has resulted in unique features of plan and design.

The building is sixteen stories in height above grade. The first two floors, each of which is mezzanined, are devoted to the large public rooms and entertainment suites with their necessary complement of service units and the like. Above these are eleven guest room floors. Then come two floors devoted to sample display rooms, and there is a servants' dormitory floor immediately under the roof. Below grade are a basement and a sub-basement, containing the laundries, the mechanical plant, store rooms and so on.

While the general architectural treatment of the exterior has followed the lines of the style popularly referred to as "Adam," it has been largely inspired by the Classical and the Italian Renaissance

architecture of the periods beloved by Piranesi, and from which the brothers Adam evolved the style known by their name.

The two lower stories are of buff Indiana limestone resting on a base of granite. The limestone ashlar is laid up in wide horizontal courses, each of the courses being about five feet in height. Texture and contrast are obtained by the use of two-cut-to-the-inch tooling in all of the large stone surfaces, the mouldings and small surfaces being rubbed. The treatment of these two lower stories has been kept severe and simple, the large plain wall surfaces displaying to the best advantage the natural beauty of the limestone and enhancing the stone carving concentrated in the panels and placques between the pilasters of the second story.

The shaft of the building is of an inexpensive wire cut brick, ranging in color from red almost to black, and laid up with a three-quarter inch joint of grey mortar in English cross bond, which gives a pleasing yet unobtrusive diaper pattern on the wall surfaces.

The three upper stories are of terra cotta and brick, the terra cotta matching the limestone of the lower stories both in color and texture. Here again the principal architectural motif is the Adamesque placque and ornament of terra cotta inlaid in the brick panels. The cornice above is entirely of terra cotta, and the sky line, already interesting on account of the unusual shape of the building, is further enhanced by the light terra cotta balustrade and the severely classical urns surmounting it.

An interesting and successful feature of the exterior is the graduated chamfering of the corners of the building extending through the entire shaft. This gives to the mass of the building a most appreciable sense of stability and entasis without the necessity of using the expensive method of battering back the entire surfaces of the walls.

In approaching the question of the plan of this hotel, there are three general considerations which must be borne in mind, and which will be found to govern the disposition of practically every unit, both public and service, in the building; and the success of any hotel depends, ultimately, upon the architects' and owners' thorough understanding of these considerations, and upon their ability to use them to the best advantage in planning and building: First, the arrangement of that part of the house devoted directly to the guest in such manner as to meet absolutely every reasonable demand of his for comfort and convenience; second, the entertainment part of the house, so arranged as to give every convenience for handling affairs of all kinds without interfering with the comfort of the guest, and so flexible that it will properly accommodate the largest as well as smallest function; third, the location and arrangement of the service department of the hotel in such manner that the service to all parts will be complete and direct, and therefore most efficient and economical.

To these considerations it may be well to add a fourth, that of economy of materials and construction. This is such an obvious requirement in any building constructed and operated by the owners to return a fair profit upon their investment that it seems hardly necessary to mention it, yet it is a consideration of prime importance, one that, unfortunately, seems to be only too often disregarded.

In the Hotel Statler the utmost economy possible without detriment to the quality or completeness of the work was demanded, and in consequence the desired architectural effects were obtained by the careful selection and use of inexpensive materials, combined with a thorough study of proportion, detail and color.

The guest arriving at the hotel enters the main lobby at either end, passing through small entrance vestibules, the walls of which are of Botticino marble inlaid with delicate ornament of Port d'Or marble. The main lobby is an imposing room forty-eight feet wide, ninety-two feet long and twenty-four feet high, with a vaulted ornamental plaster ceiling. The walls are of Botticino marble up to the height of the mezzanine balcony, which extends along one side of the room as well as around the office lobby. The ceiling is supported on eight panelled marble piers; and on that



THE HOTEL STATLER, DETROIT, MICH.
GEO. B. POST & SONS. ARCHITECTS.



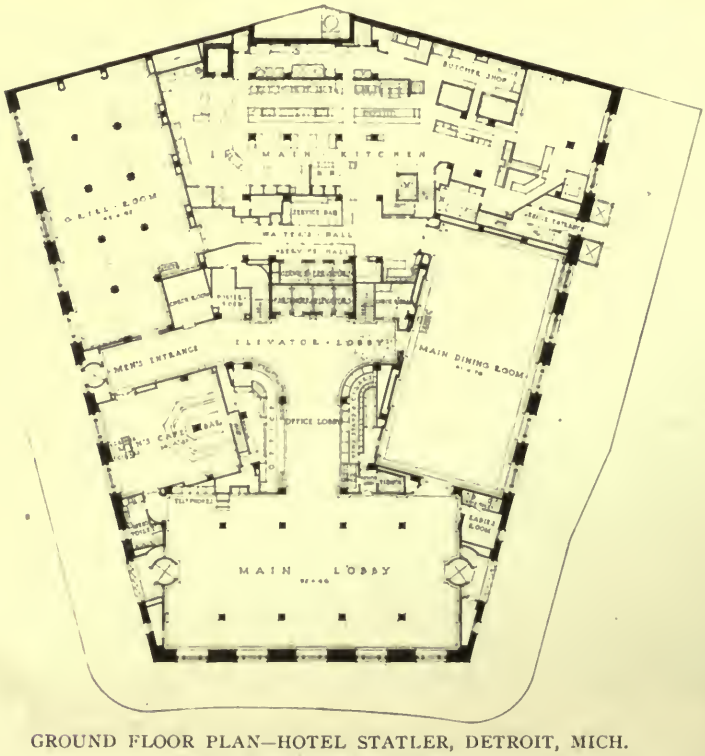
ENTRANCE DETAIL—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



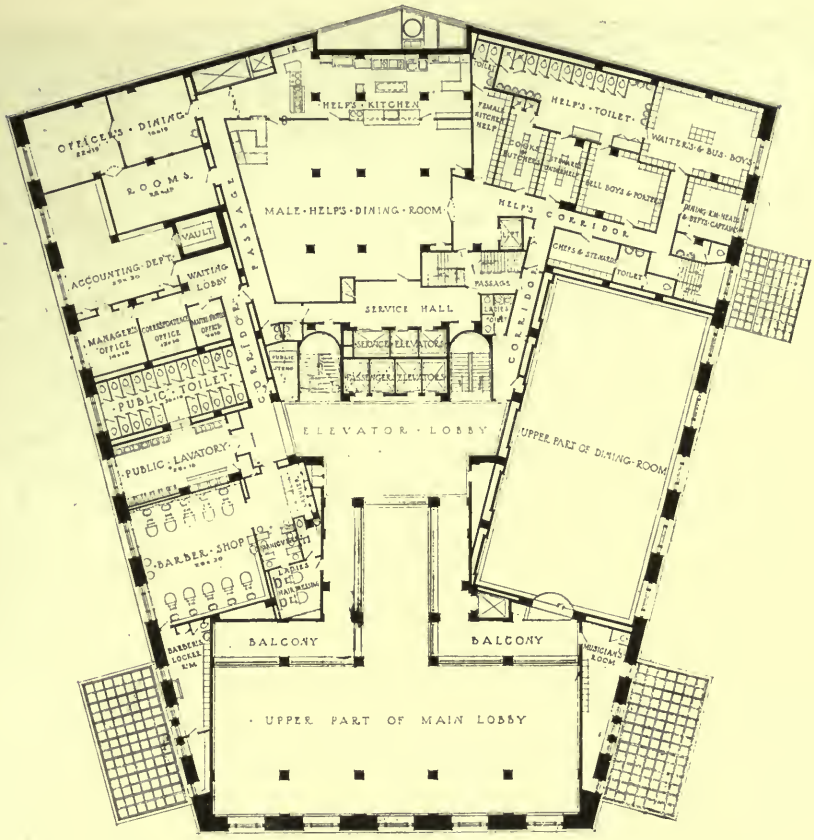
MEN'S ENTRANCE—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



MEN'S CAFE—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.




GROUND FLOOR PLAN—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.




MEZZANINE FLOOR PLAN—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.

side of the room overlooking Grand Circus Park the furniture and rugs have been so arranged between these piers as to afford comfortable lounging alcoves for guests. The color scheme of the hangings and furnishings of the room is gray and blue, and this color scheme is recalled also in the decoration of the plaster ceiling.

Opening from the main lobby, and similar to it in treatment and decorations, is the office lobby, containing on one side the hotel office, with its complete equipment of room racks, cashiers' cages, safety deposit boxes and the like, and on the opposite side the telegraph office, and the cigar, news, and souvenir counters.

Proceeding from the office lobby, the guest finds himself in the elevator lobby, where are located the four high-speed passenger elevators, the check room and the porters' office. A special men's entrance and exit for the convenience of the house guests is provided by means of a third doorway to Washington Avenue.

Opening directly from the elevator lobby and men's entrance are the main dining room, the grill room and the men's cafe, of which the main dining room and men's cafe are in direct communication with the main lobby.

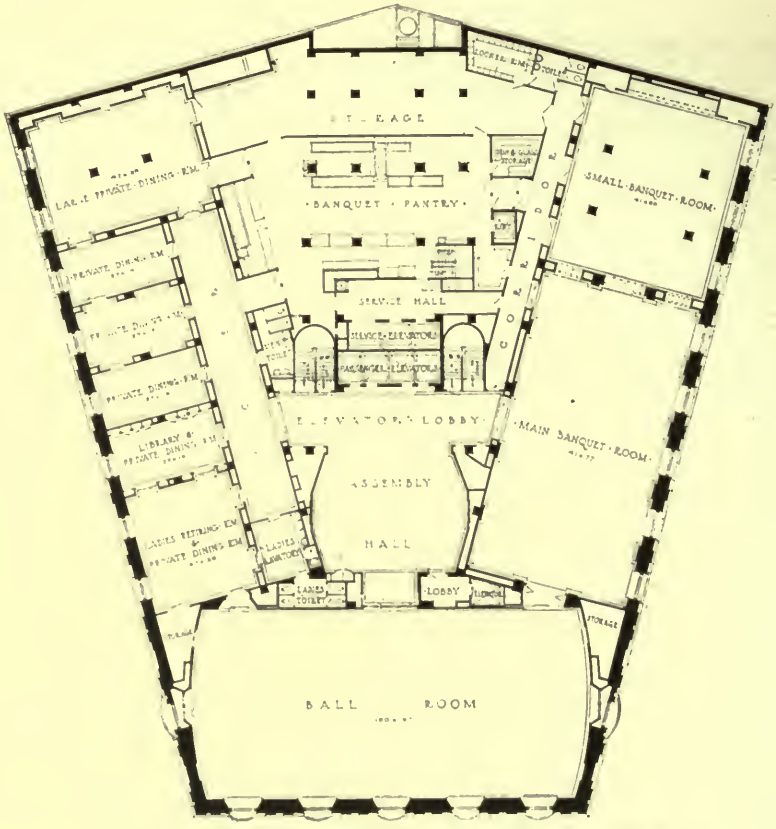
The main dining room faces on Bagley Avenue and has a flat ornamental plaster ceiling and plaster walls and pilasters decorated in gray and green. The walls are protected by a low wainscoting of Botticino marble. This room, although large in size, and with its floor space unobstructed by columns, has been so decorated and furnished as to be comfortable and informal. There is none of the feeling of stiff formality which chills and



MAIN LOBBY—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



MAIN DINING ROOM — HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.




FIRST FLOOR PLAN—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.

repulses the average guest and oppresses him throughout the entire meal.

The grill room and the men's cafe are both in that style of architecture which at present is the accepted type for a "man's room," the Elizabethan, with its characteristic antique ornamental plaster ceilings and with walls panelled for their full height in quartered oak. The carving in the base and cornice is enriched by the introduction of ebony inlay. In the richly colored window draperies and furniture coverings, in the deep-toned portraits on the walls, and in the sparkle of the antique silver lighting fixtures, are found those notes of color so necessary to the proper finish of a room of this type.

The mezzanine balcony, which overlooks both the main lobby and the office lobby, provides additional lounging space, and is connected with pantries giving the necessary service facilities for afternoon tea. At one end of this balcony, between the lobby and the main dining room and opening into both, is the musicians' balcony, one orchestra thus being capable of serving for both rooms.

A special banquet elevator, opening from the main lobby and situated adjacent to the carriage entrance, is for the use of residents of the city attending balls and banquets. It serves as still another means of entrance and exit for the assembly hall, on the first floor, which is accessible by the main passenger elevators and by the two broad marble staircases situated on either side of the elevator enclosure.

The first floor is devoted exclusively to the entertainment of guests and provides unusual facilities for balls, conventions and private dinners. Opening from the elevator lobby and assembly hall, which



THE BALL ROOM—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.



A CORNER OF THE BALL ROOM—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.



A CORNER OF THE MAIN BANQUET ROOM—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



MAIN BANQUET ROOM—HOTEL STATLER, DETROIT, MICH. GEO. B. POST & SONS, ARCHITECTS.



LARGE PRIVATE DINING ROOM—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.



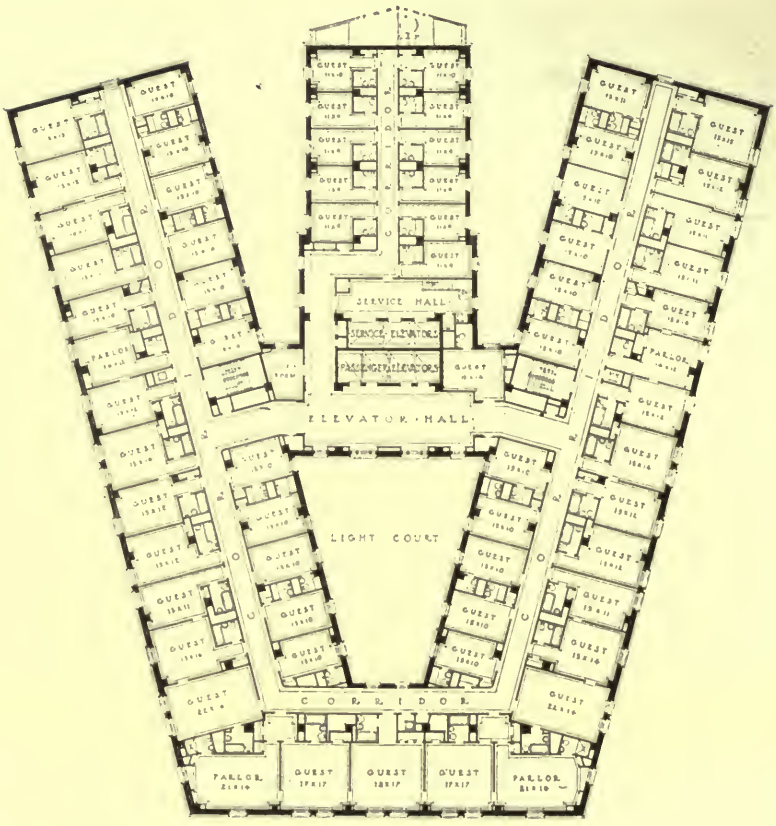
SMALL PRIVATE DINING ROOM—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.



LADIES' PARLOR AND RETIRING ROOM—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.



LIBRARY—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.




TYPICAL FLOOR PLAN—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.

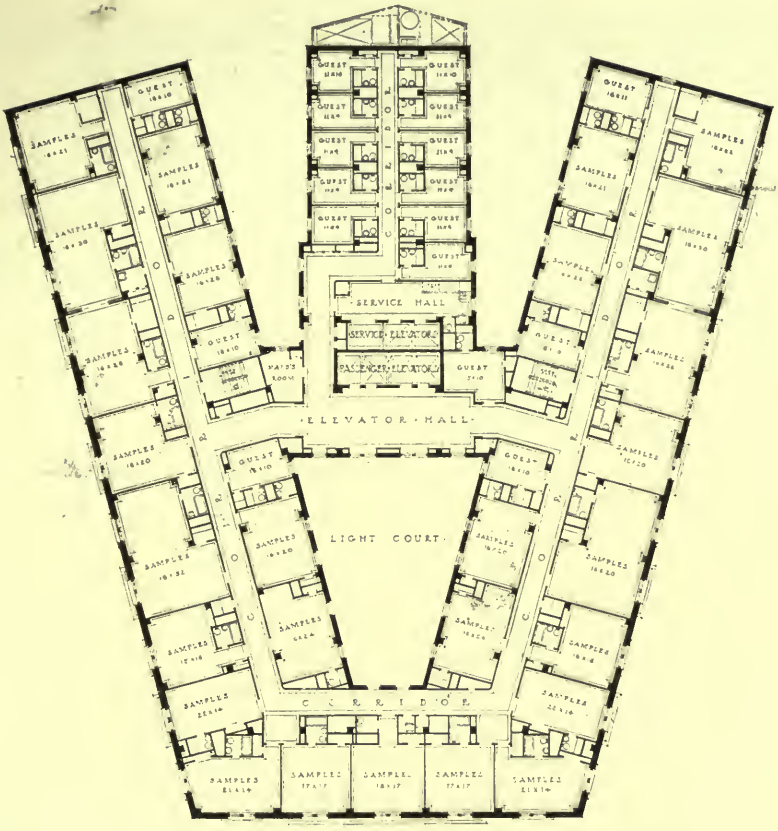
are provided with ample checking facilities, are the ball room, banquet rooms, and various-sized small private dining rooms, all so arranged that they can be united into suites; if occasion arises, the entire floor can be utilized for an extra large affair. The ball room, main banquet room, and small banquet room are provided with maple floors for dancing, and the pantries are so arranged that every room on this floor, including the ball room, has dining service.

The ball room extends across the entire Park front of the building, and is a finely lighted room, forty-seven feet in width by one hundred feet in length, with its magnificent expanse of dance floor entirely free of columns. The room is Adam in treatment, the key note being dignity and simplicity.

The plain wall surfaces are broken only by the tall fluted pilasters supporting an ornamental plaster cornice and a segmental vaulted plaster ceiling decorated in low relief. Ivory and oyster shell gray are the prevailing tones of the walls and ceiling, and the window hangings and furniture coverings are rose damask; the scheme as a whole acting as an excellent background for the costumes and jewels to be seen at formal affairs.

The decorative scheme throughout the hotel has been based upon the assumption that the architectural and decorative treatment of a room should always be so designed that it will provide with its furnishings a refined background for the people using it, and that there is never any justification for that type of over-decorated, garishly furnished room where the only purpose served by the human being is to give it scale.

Two excellent "background" rooms on the first floor are the ladies' retiring




PLAN OF THIRTEENTH AND FOURTEENTH FLOORS—HOTEL STATLER, DETROIT, MICH.
Geo. B. Post & Sons, Architects.

room, which opens from the ball room, and the library adjoining it. The ladies' retiring room is a finely proportioned room with gray panelled walls and is furnished in the Chinese Chippendale period. The library is furnished in oak, with a ceiling of dull antique gold. This room contains a carefully selected library of some two thousand volumes for the use of guests, and a hurried glance at some of the book titles and a few moments' relaxation in one of the comfortable English chairs with its reading lamp close by convince one that this room will be one of the most used and homelike in the hotel.

In addition to the other private dining rooms on this floor there is a large private dining room in the period of Henry II, with an interesting ceiling in gray antique oak decorated with polychrome ornament.

The main banquet room and small banquet room are of the same general style as the ball room. Both the banquet room and the ball room are provided with musicians' balconies, and the wide doorway between the two rooms is provided with two sets of doors so that music may be played in both rooms simultaneously without interfering.

In the planning, equipment, and furnishing of the bed room floors, the guest will find the highest development of the Statler service, which is so striking a feature of the Cleveland and Buffalo hotels of the same name.

There are eight hundred guest rooms in the greatest variety of sizes and furnishings. The majority of the rooms are of moderate size. All rooms are easily accessible from the passenger elevators located in the center of the building and opening into a lobby that receives



PARLOR OF A SUITE—HOTEL STATLER, DETROIT, MICH. GEO.

plenty of daylight. Directly back of the passenger elevators are the service elevators and service hall, and in close proximity is the maids' room. Thus the focal point of the floor service is located as centrally as are the passenger elevators, assuring prompt and economical service for the entire floor.

Each bedroom is provided with a private bathroom, running ice-water, thermostatic heat control, telephone, etc. An interesting instance of the thoroughness with which the comfort of the guest has been considered is the pincushion found on every dresser, and which holds needles, pins, thread, buttons of assorted sizes, and even hooks and eyes.

The bathrooms are ventilated by a system of forced ventilation, and between every two bathrooms is a vent and pipe shaft containing all of the supply, waste, vent, steam and other piping, besides the valves controlling the bathroom fixtures. This shaft is accessible from every bathroom, and is large enough to admit a workman, thus insuring quick and economical repair of all piping.

The thirteenth and fourteenth floors are divided into large rooms for the display of samples, and these rooms have been fitted with the disappearing wall type of bed, which is concealed in a closet when not in use. This allows of one room doing double service, as bed room and display room, thereby saving the salesman the added cost and inconvenience of engaging two rooms.

It is, of course, a simple matter to give good service to the guest if the cost of operation be disregarded; and it is also a simple matter to operate cheaply by giving the guests no service. But it is quite a trick to give complete service and at the same time maintain economical operation.

Accordingly, the service parts of the house have been so planned and equipped that the corps of trained employees using it will be able to give complete and economical service. This was considered of so great importance that valuable ground floor space with street frontage on Bagley Avenue was devoted to the kitchens and the service entrance.

The location of the kitchen on this floor, and between the main dining room and the grill room, assures both rooms perfect "hot" service. The kitchen is so arranged that all food leaving it, whether going to the dining rooms on the ground floor, to the bedrooms upstairs by way of the service elevators, or by stairway or lift to the mezzanine and first floor pantries, must pass by and be checked at the checker's desk located at the unique entrance and exit.

The service entrance on Bagley Avenue contains an office for the checker and timekeeper, who controls the coming and going of all employees and materials. This entrance is entirely cut off from the remainder of the ground floor, all supplies passing into the basement by way of the sidewalk lifts, and being distributed there to the various storerooms or sent to the floors above by the service elevators. Employees go by stairways, first to their locker rooms in the basement or on the mezzanine, and then to their various departments.

The basement is free of any room for the use of the public, as the barber shop, and men's toilet rooms and washroom, usually to be found tucked away in the basement, are here located on the ground floor mezzanine, thus insuring unusually good light and air, as well as adding greatly to their accessibility.

On this mezzanine is also located that service department, and a very important one it is, to which the public and service have access: the manager's office with its accounting department, public waiting lobby, and the like.

This department is in constant touch by telephones, telautographs and pneumatic tubes with every unit of the exceedingly complex organization necessary to run this most modern of American hotels. It must so control and guide the activities of the various departments and its hundreds of employees that to the guest it will seem as simple, as efficient, and as noiseless in operation as the service of a small, well-ordered household.



ENTRANCE TO FARMER'S COTTAGE—ESTATE OF ADOLPH MOLLENHAUER, ESQ., BAY SHORE, L. I. ALFRED HOPKINS, ARCHITECT.



FARMER'S COTTAGE—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.

# THE GROUPING of FARM BUILDINGS

## EXAMPLES FROM THE WORK OF ALFRED HOPKINS

By John J. Klaber

FARM buildings, until a very recent period, were planned, almost universally, with little regard for scientific arrangement, and none for architectural treatment. The scientific aspect has come to be seriously considered as a result of the researches of the national and state Departments of Agriculture, while the architectural improvement to be noticed during the last few years has been due to the growth of the gentleman farmer, who, deriving his main income from other sources, was in a position to allow himself, in the design of his buildings, a more generous outlay than was possible for the farmer whose sole revenue was derived from agriculture. We find, consequently, that the newer farm buildings excel the older, not only from a decorative standpoint, but from a practical standpoint as well. The labor of farm work has been simplified, the sanitation is greatly improved, and the products of the farm are of better quality, particularly in the matter of the purity of milk, that most vital point in modern sanitary reform.

To this improvement no architect has contributed more than Mr. Alfred Hopkins. While he has not devoted himself exclusively to farm building design, he has, to some extent, specialized in this class of work, and in many cases he has been called upon to design farm buildings on estates where the residences were the work of other architects. He has also written extensively on this subject, and his book, "Modern Farm Buildings," is one of the leading works on this phase of architecture.

The considerations to be taken into account in planning a farm group are both practical and artistic. From the practical side, and particularly as re-



FARM BUILDINGS—ESTATE OF HENRY M. TILFORD, ESQ., MONROE, N. Y.
Alfred Hopkins, Architect.

gards milk production, the problem of cleanliness is paramount. It is this that dictates the isolation of the dairy, the planning of the stables, and the details of much of the interior treatment. Dust and flies, the two great conveyers of microbes, are the chief enemies to be excluded. Hence the adoption, in the best recent work, of a type of interior finish that can be thoroughly washed, with floors usually of concrete, walls and ceilings of hard plaster in place of the wood finish formerly prevalent. Hence the elimination of interior mouldings and trim, which would form lodging places for dust. Hence, also, the removal of the hay storage from its traditional loft over the stables, thus eliminating the infiltration of dust, as well as the pollution of the hay by the foul air arising from below. These details form the subject of a volume, and cannot be fully developed in this article, but a brief reference to them is necessary, as they determine, to a great extent, the grouping of the various buildings.

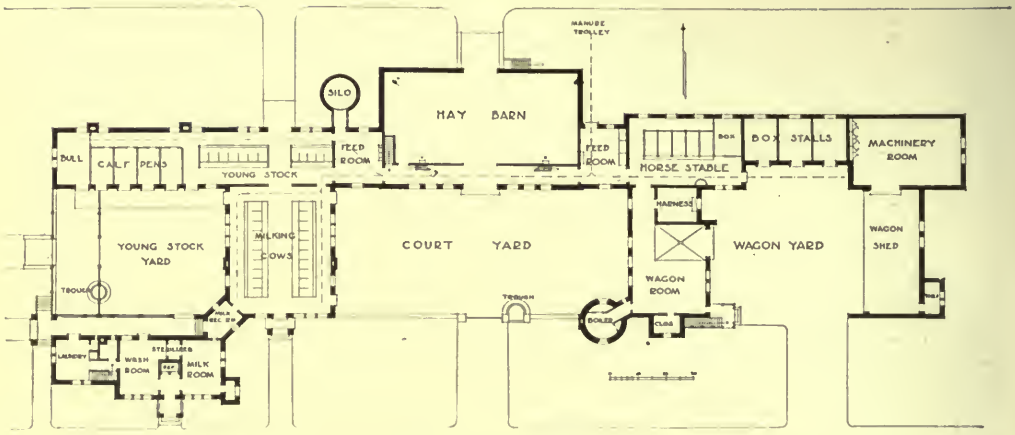
Where the hay used is produced on the farm itself, and not brought in from the outside—although this latter method is not infrequent—its bulk is necessarily so considerable that the hay barn becomes the largest building of the group. The separation of the horses from the cattle then leads to a typical plan in which the hay barn becomes the center, with two wings of varying importance balancing each other. An excellent example of this type is the group of buildings designed by Mr. Hopkins for the estate of Mr. Henry M. Tilford, at Monroe, N. Y. Here the hay barn occupies the central position, and its location at the extreme north of the plan shelters the central court, used as a cow yard, from the cold north winds, and leaves it open to the rays of the sun. In the right wing are the horse stables, with five ordinary stalls and four box stalls. Adjacent are the harness and wagon rooms, opening on a second court, around which are also grouped the machinery and tool rooms, and a shed for the rougher farm wagons. Above the wagon room are some living rooms for the men, reached



DAIRY—ESTATE OF HENRY M. TILFORD, ESQ., MONROE, N. Y.
Alfred Hopkins, Architect.



FARM BUILDINGS—ESTATE OF HENRY M. TILFORD, ESQ., MONROE, N. Y.
Alfred Hopkins, Architect.




PLAN OF FARM BUILDINGS ESTATE OF HENRY M. TILFORD, ESQ., MONROE, N. Y.
Alfred Hopkins, Architect.

by an outside staircase. The adjoining tower is used as a boiler room, while its summit accommodates a pigeon house, a picturesque feature that Mr. Hopkins has frequently introduced into his designs.

This part of the group is connected with the hay barn by a feed room, and a similar room connects with the other wing, and also with the adjoining silo. The left wing is divided into two main parts, one for the milking cows, the other for the young stock, the calves, and the bull. A court enclosed by these two buildings and the dairy, but open to the west, is used as a yard for the young stock, while the bull has a smaller portion, fenced off at the end.

The dairy is more closely connected with the cow barn than was formerly considered good practice. However, if proper standards of cleanliness are maintained, this should not be a serious detriment, while it certainly facilitates the work of the farm. The plan of the dairy is relatively simple, consisting only of a milk receiving room, a milk room, wash room and laundry, together with a sterilizer and a refrigerator. This is ample for the usual requirements of a private farm of considerable size, although a commercial plant requires a more complete installation.

The materials used for the exterior of these buildings are rough local stone and shingles, the former composing the larger part of the walls. The general treatment is characterized by the simplicity appropriate to a structure of this nature, the architectural effect being obtained almost entirely by the differentiation of the various buildings composing the group. No attempt has been made to secure a rigid symmetry, the effect being rather a picturesque balancing of masses, each treated as simply and directly as possible. The amount of applied decoration, in fact, has been reduced to a negligible quantity.

In the buildings on the estate of Mr. C. V. Brokaw, at Glen Cove, L. I., the accommodation for both cows and horses is considerably less than in the preceding example. Here a single feed room is used, located between the two stables, and the hay loft is placed above the wagon house, forming the dominating mass on the axis of the nearly symmetrical court-yard. The arrangement of the wagon shed and machinery room is similar to that above described, and the tool room is located at the entrance to the court, balancing the calf pens. The cow yard is placed to one side, adjacent to the cow barn. The dairy, placed as in the Tilford group, is smaller and simpler in arrangement, practically all the work being done in a single room. Adjacent to it, although not directly connecting, is the farmer's cottage. The yard lying between the cottage and the cow stables is used for the service of the latter. In its center is



MEN'S QUARTERS, FARM BUILDINGS—ESTATE OF HENRY M. TILFORD, ESQ., MONROE, N. Y.
Alfred Hopkins, Architect.

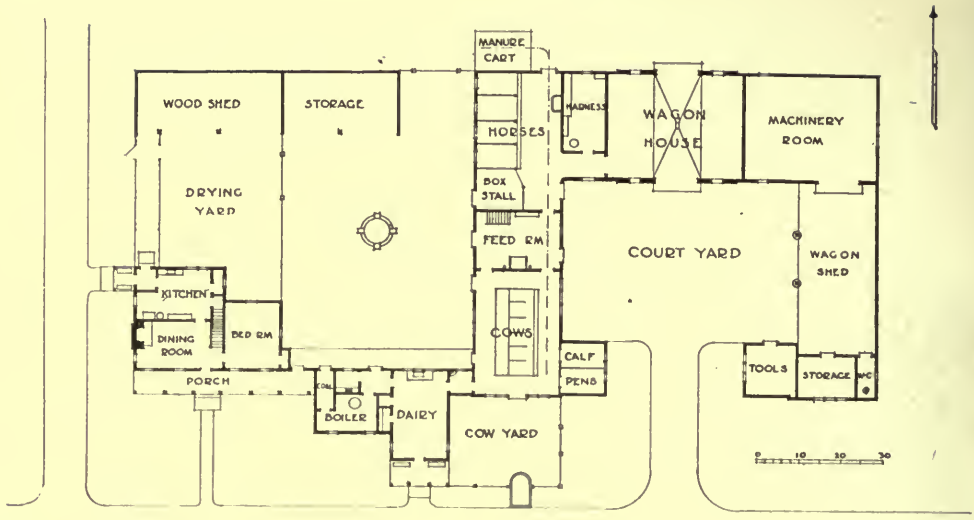
a watering trough, above which has been constructed a circular corncrib, supported by four brick posts.

The effect of this group is very different from the preceding one, due principally to the use of clapboards as the material of the walls, and of detail of a generally Colonial or Georgian character. The buildings are low and rambling, the only conspicuous exception being the hay barn, with its cupola used as a ventilator and clock tower. The essential character of a hay barn is well expressed by the great central door with its beam and hoist, and by the louvers for additional ventilation. The farmer's cottage is a pleasing bit of domestic architecture, and the few ornamental details are excellently studied in the style adopted, which Mr. Hopkins has used for most of his work on Long Island, in conformity with the houses of similar character that are so frequent in that locality.

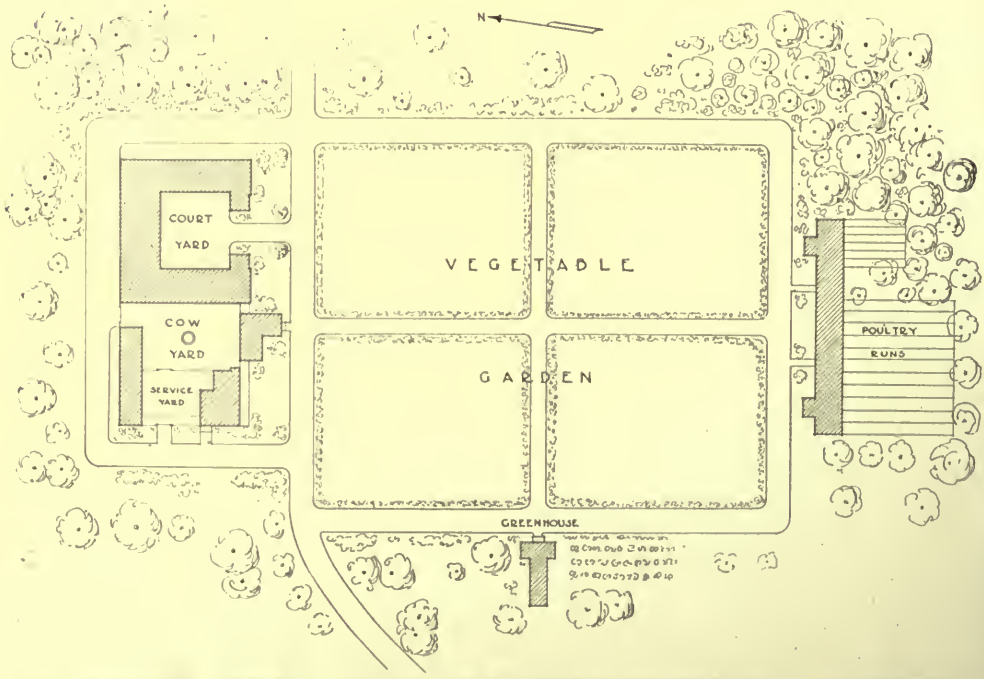
The south side of this group of buildings faces on a large vegetable garden, on the opposite side of which is the chicken house. This is of about the same length as the main farm group—exclusive of the farmer's cottage—and is treated in a similar manner, though with slightly greater simplicity. The north side, facing the other buildings, is decorated with a simple but attractive arbor of trellis work, while on the south side are the runs for the poultry. This side of the building is very open, with skylights in the roof so as to give the greatest possible amount of sunlight, while the north side has only such openings as are necessary for ventilation. The design of the entire building has been studied with a view to the greatest possible efficiency and convenience.

In the farm buildings of Mr. Adolph Mollenhauer, at Bay Shore, L. I., the chicken house is combined with the other farm buildings, in a single group. Here, again, the buildings are arranged on the three sides of a court, but the orientation is different, and has produced a different distribution of the various parts.

The chicken houses face the south, as on the Brokaw estate, and their runs are similarly arranged, although the inter-




PLAN OF FARM BUILDINGS AND FARMER'S COTTAGE—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.




GROUP PLAN OF FARM BUILDINGS AND VEGETABLE GARDEN—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.

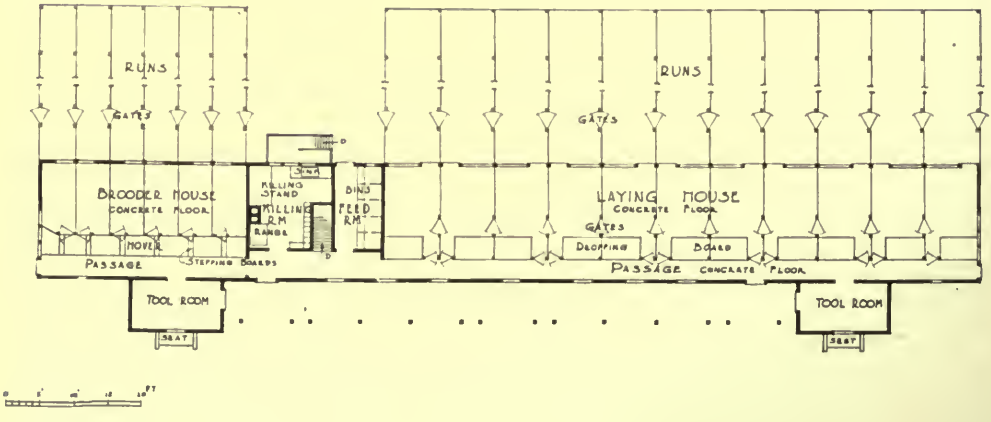


FARM BUILDINGS AND FARMER'S COTTAGE—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.



FARM BUILDINGS AND FARMER'S COTTAGE—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.






VIEW AND PLAN OF POULTRY HOUSE—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I. ALFRED HOPKINS, ARCHITECT.



WAGON SHED AND TOOL ROOM—ESTATE OF C. V. BROKAW, ESQ., GLEN COVE, L. I.
Alfred Hopkins, Architect.

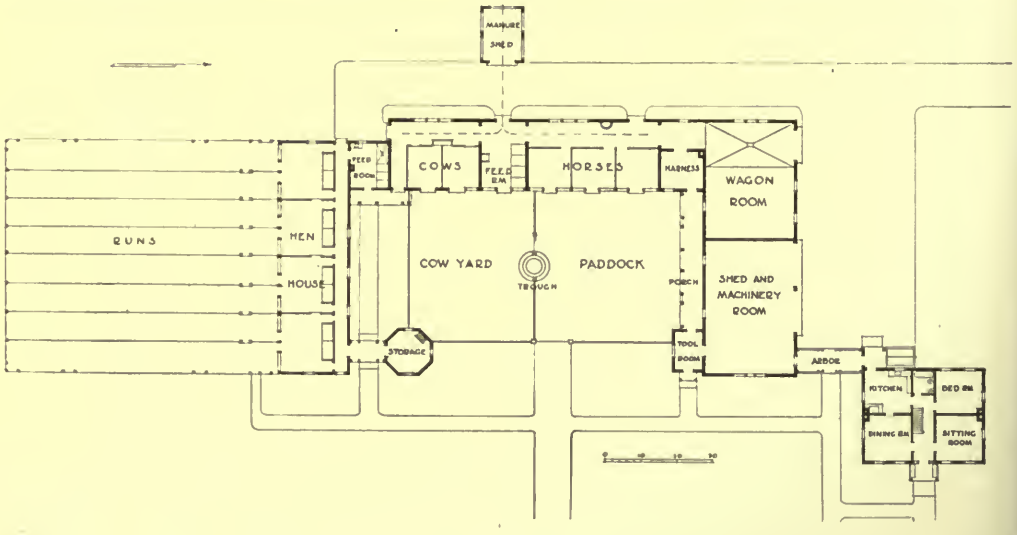
nal disposition of the houses is somewhat different. The stables, however, are much simpler, being arranged for only two cows and three horses, with a single feed room and no hay barn. The central court, open to the east, is divided to form a cow yard and a paddock, with a passage for the service of the chicken houses. Connected with the horse stable is the wagon room, and next to it a shed and machinery room, with a small tool room adjoining.

The farmer's house lies a little to the northeast of the main group, and is connected with it by an arbor, interestingly treated with trellis work. The house is a pleasing example of the same Colonial type of architecture that Mr. Hopkins has so frequently used. It differs from the Brokaw group, as do the other buildings of this estate, in being built of shingles instead of clapboards, but the treatment is otherwise very similar.

The buildings of this group are more uniform in height than in the previous examples, due to the absence of the dominating mass of the hay barn. Any possibility of a too monotonous effect, however, has been obviated by the introduction of decorative motives of trellis work, in various parts of the group, as well as by the addition of an octagonal tower, used as a store-room and pigeon house. The peculiar form of the roof, while not without precedent in the old Georgian examples, is still sufficiently unusual to add a very decided note of interest to the group of buildings.

The buildings on the estate of Mrs. Glenn Stewart, at Locust Valley, L. I., are also very similar in character, and perhaps even simpler in arrangement. The main group is arranged on three sides of a small garden, open to the north. On the east side are the dairy and cow barn, with only two stalls. In accordance with Mr. Hopkins' practice, these two buildings do not connect, and the only access from one to the other is through the open porch adjoining. The feed room, next to the cow barn, forms the angle of the group. It serves the horses as well as the cows, hence its considerable size, which would be somewhat






VIEW AND PLAN OF FARM BUILDINGS AND FARMER'S COTTAGE—ESTATE OF ADOLPH MOLLENHAUER, ESQ., BAY SHORE, L. I. ALFRED HOPKINS, ARCHITECT.



FARM BUILDINGS—ESTATE OF ADOLPH MOLLENHAUER, ESQ., BAY SHORE, L. I.
Alfred Hopkins, Architect.

excessive for the latter alone. The harness and carriage rooms, adjoining the feed room, form the south side of the garden court, while on the west is the farmer's cottage.

The horses are lodged in a separate wing, containing five box stalls with Dutch doors and broad overhanging eaves. The wing to the south, shown in the plan as containing chicken houses and additional stall room, has not yet been built.

In the center of the garden court is a small dove cote on the top of a high pole, around the base of which is an octagonal seat. The entire effect of the garden is rather more individual than one expects the surrounding of farm barns to be, and this, no doubt, is due to the personal taste of the owner.

To the northwest, at a distance of about one hundred and fifty feet from the main group, is located the superintendent's cottage. This is another of the excellently designed small Colonial houses that we have already seen in connection with Mr. Hopkins' work. It is slightly more ambitious than the other cottages above described, and should be capable of furnishing a useful suggestion to the builders of small country houses. The treatment of the gables, by means of which the rear of the house is made considerably higher than the front, should have special adaptability.

One of the most important works that Mr. Hopkins has undertaken is the "Skylands" farm, the estate of Mr. Francis Lynde Stetson, at Sterlington, N. Y. This includes almost every type of building that a farm might well contain, the buildings being scattered over a vast estate, and employing various types of material and of architectural treatment. Several of them are illustrated in Mr. Hopkins' book, and from them we have chosen the cow barns as being particularly pertinent to the subject of this article, and as presenting certain features that are not to be found in the other buildings shown herein.

The buildings in question are noteworthy because of their thorough protection against fire, a measure made par-



FARMER'S COTTAGE—ESTATE OF ADOLPH MOLLENHAUER, ESQ., BAY SHORE, L. I.
Alfred Hopkins, Architect.



FARM BUILDINGS AND FARMER'S COTTAGE—ESTATE OF ADOLPH MOLLENHAUER, ESQ., BAY SHORE, L. I.
Alfred Hopkins, Architect.



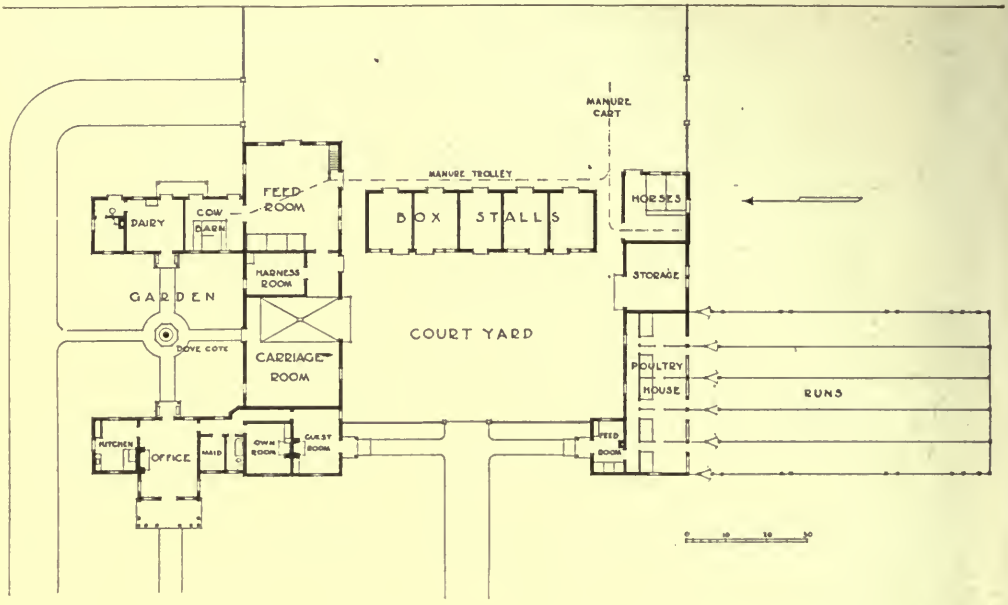
FARM BUILDINGS—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.

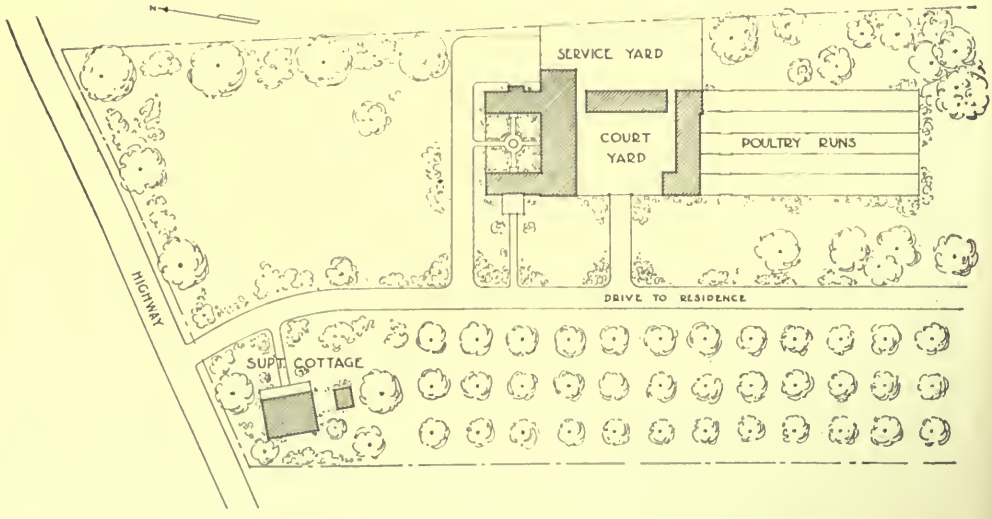
ticularly important because of the surrounding woods. The material used is reinforced concrete throughout, except for the silo, which is of wood. The use of concrete has led naturally to a type of architecture with a distinctly Italian suggestion, despite the absence of any details that would stamp it as belonging to a definite historic style.

The main building consists of two wings, at right angles to each other. The lower of the two, running east and west, contains the quarters for the milking cows, ten in number, with bull and calf pens adjoining. The other wing contains the feed room, root cellar, hay barn and dairy, this last a fairly complete installation of five rooms, reached from the cow stable only through an open passage. Above the dairy are the dairyman's quarters, accessible only by an outside staircase. The upper part of the hay barn is extended over the root cellar and part of the feed room, giving abundant space for hay storage. On the exterior of the building this space is indicated by a wall containing no windows, and pierced only by louvers, while the dairyman's rooms have large windows, the two parts being separated by an open porch.

The building for the young stock, erected at a later period, is entirely independent of the main building, being joined to it only by a pergola. The silo is located between the two buildings, so as to serve both of them conveniently. A storeroom and woodshed are connected with the building for the young stock, and further to the north are the cow and bull yards, each with a shelter open to the sun, but closed against the cold north winds.

Several features of this plan are noteworthy, and in particular the great picturesqueness of effect attained by a simple use of the material adopted, with the help of a certain amount of planting, and with a very simple and convenient arrangement of services. The use of concrete is also notable from the point of view of sanitation, as no material presents greater facilities for the high degree of cleanliness that is desirable in all installations for the production of milk.




PLANS OF FARM BUILDINGS AND GROUNDS—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I. ALFRED HOPKINS, ARCHITECT.



GARDEN COURT OF FARM BUILDINGS—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.

While these are by no means all the farm buildings recently built by Mr. Hopkins, they are sufficiently various in their arrangement to be fairly typical of his recent practice. We find among them the use of stone, shingles, clapboards and concrete, as the materials of the buildings; we find horse and cow stables, dairies, cottages, chicken houses, silos, hay barns and other accompanying services, grouped in a variety of ways. But in all the groups we find the same spirit and the same principles of composition.

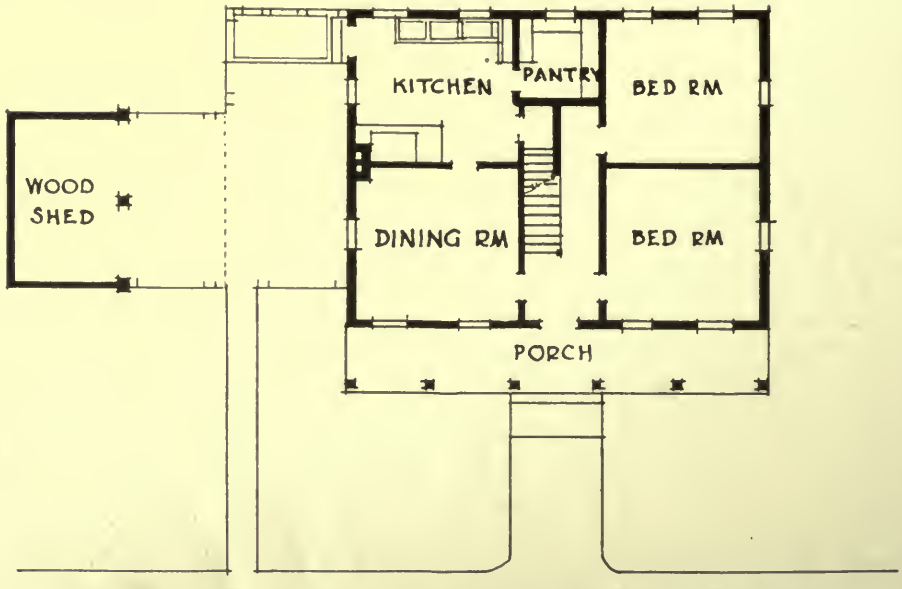
One of the main points to be noted throughout the works of Mr. Hopkins is their general air of appropriateness to their position and use. They are characteristically farm buildings, and most decidedly rural in character. Their general lowness contributes greatly to this effect, and so do the low pitch of the roofs and the manner in which the buildings are joined together by arbors and covered passages instead of being set down anywhere, without apparent relation, as on the ordinary farm. We may note also the reticence in the use of ornament that characterizes all this work, a feature that is none too common in recent buildings, where the prevailing tendency seems to be toward the use of a great amount of detail, so fine in scale as to be lost in the executed work. Mr. Hopkins, on the other hand, uses few ornamental details, but these few are always large enough in scale to be able to produce the desired effect.

Another important point is the freedom with which the compositions are handled. While Mr. Hopkins is no enemy of symmetry, he very rightly recognizes that the sacrificing of common sense to a formula is by no means advisable, and that the different parts of a farm group demand different proportions and different fenestration, and he has combined these varying factors into a harmonious whole, without losing either variety or unity.

On the practical side, also, a few points may be noticed. One of these, to be found in all Mr. Hopkins' recent plans, is the use of the manure trolley, hung from the beams above, in place of the cart formerly used, with a great gain in clean-



SUPERINTENDENT'S COTTAGE—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.




PLAN OF SUPERINTENDENT'S COTTAGE—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.



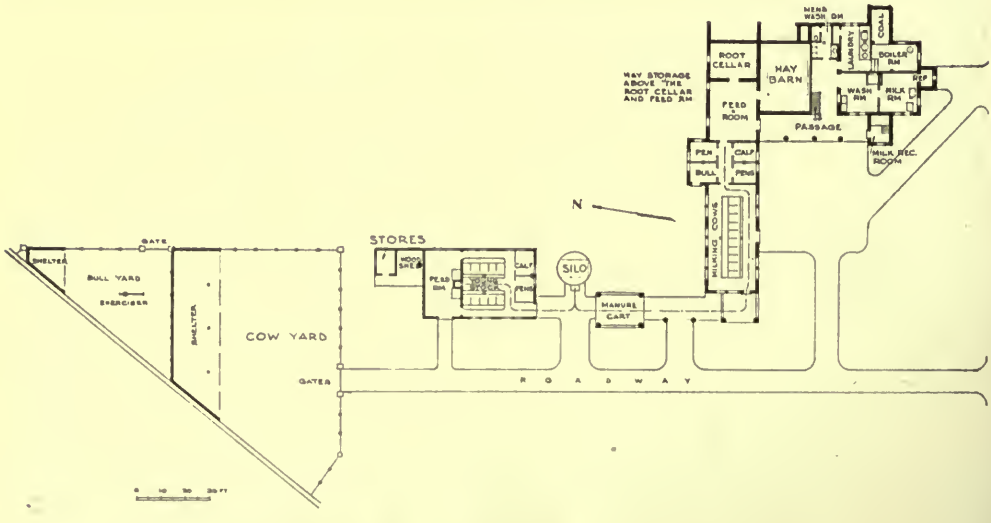
SUPERINTENDENT'S COTTAGE—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.



BOX STALL WING OF FARM BUILDINGS—ESTATE OF MRS. GLENN STEWART, LOCUST VALLEY, L. I.
Alfred Hopkins, Architect.



COW BARN AND DAIRY—ESTATE OF FRANCIS LYNDE STETSON, ESQ., STERLINGTON, N. Y.
Alfred Hopkins, Architect.




PLAN OF FARM BUILDINGS—ESTATE OF FRANCIS LYNDE STETSON, ESQ., STERLINGTON, N. Y.
Alfred Hopkins, Architect.



COW BARN AND SILO—ESTATE OF FRANCIS LYNDE STETSON, ESQ., STERLINGTON, N. Y.
Alfred Hopkins, Architect.

liness by the substitution. The track can pass anywhere that there is four feet of clear width, with a three foot radius on the turns. In the cases where silos are included in the group the ensilage can be conveyed on the same track, thus adding considerably to simplicity of operation. The manure trolley sometimes passes through the feed rooms, but Mr. Hopkins does not consider this a serious detriment, as a little care avoids all possibility of contamination, and any other arrangement would usually lead to considerable complication in plan and consequently in operation. Where the track runs outside the buildings it is supported by overhanging eaves or rafters. The old-fashioned manure pit is generally abandoned, except in special cases, the manure being carted away and stored at some distance.

Another departure from earlier practice is in the location of the dairy. It was formerly believed that this should be as far from the barn as possible, but the inconvenience of this arrangement is scarcely offset by its value in preventing contamination, since this is more likely to occur in the barn than in the dairy. If, therefore, the two buildings are effectively separated, it would seem that all reasonable precautions in planning have been taken, and the problem of cleanliness becomes one of administration.

Other details might be mentioned, but to do so would be to depart too widely from the limits of our subject. For those whose interest in this type of buildings is greater than can here be satisfied, we can scarcely do better than to commend the very instructive volume that Mr. Hopkins himself has written on this subject, in which he epitomizes the results of the best recent practice.



THE TALMADGE HOUSE, LITCHFIELD, CONN. FROM WATER COLOR DRAWING BY WESLEY S. BESSELL.

# COLONIAL ARCHITECTVRE IN CONNECTICVT

Text and Measured Drawings by
Wesley Sherwood Bessell

PART I.

IN studying the old Colonial architecture of Connecticut, one is brought to realize how little remains in its original state, how much modern methods are doing to kill the beauty there was in the homes of our forefathers. To pick out the good that is left, without modern addition in the way of a porch or new front door or change to two-light sash to mar the picture, is a difficult task. So it is with a great deal of satisfaction that we occasionally catch sight of some example remaining to us in the original state.

Going into the details of this old Colonial architecture, the different periods are clearly marked by the changes wrought in our manner of life as the country progressed.

When we see a house similar to that built about 1720 at Essex, shown on page 362, one of the first types of small houses, we must close our eyes to the porch attached at the side. Here is a house two hundred years old, representing the beginnings of our Colonial architecture, an architecture born of the necessity for economy and typical of the simple way in which our forefathers lived. What they wanted most of all was a home, four walls with as little ornament as possible. Here was simplicity, the keynote to everything worth while. How charming is the house with its simple lines and one color note in the detailed doorway.

From these primitive Connecticut survivals a lesson is to be gleaned. Let us go to the quiet of an out-of-the-way place and rest awhile, become fascinated by Simplicity. The results will be beneficial in many ways. You will see that to get your best results you must adhere to the study of simple composition. The disposition of openings will count for far more than ornament for vacant places.

Let us analyze one of these houses. How are they planned? What are they built from? Who designed them? Where did the ideas originate that make them so dignified?

As to the planning, it is extremely simple. You enter a small hall; against the large centre chimney, in the hall, is the stairway, of a sharp ascent, the rise and tread generally nine inches by nine inches, making a rise of forty-five degrees and not, as one would imagine, at all difficult to go up. To the right are two rooms, and likewise to the left. The second floor is similar. In the very early houses there was only one room on either side of the chimney. This was the general plan with few exceptions. For the larger houses the hall was carried through the house, and there were two chimneys, one at each end of the house. The houses have later been enlarged, as occasion arose, by putting on a lean-to and extending the roof line down over it. This was used as a kitchen. The ceiling heights vary between seven and eight feet for the smaller houses; the larger ones are generally higher.

The majority are built of oak and intended to stay "put," as time tells. The rafters, floor beams and sheathing boards are from the rough, and all these boards are left as they were ripped from the original timber. They are held in place with the wood pins of those days. There is no flimsiness, no neglect of small detail in construction. The floor beams were of oak, usually five by six inches, and these are still in an excellent state, the core being sound. The girders were solid and about ten by twelve inches. Some girders were supported by oak columns



HOUSE AT ESSEX, CONN., BUILT ABOUT 1720. ONE OF THE EARLIEST TYPES OF SMALL COLONIAL HOUSES.

twelve inches square. The walls were constructed of stone in the early houses, stone only being procurable; and of stone or brick in the later ones, the brick being imported from England or made in the Colonies.

As to who designed these early houses our knowledge is meagre. Few names are left to us. Generally the builder was also the designer. In the case of the Hotchkiss house at Old Saybrook, there is an original agreement between owner and builder, as follows:

"Terms of agreement entered upon and concluded between Mr. Humphrey Pratt, Junr., on this one part and Frederick William Hotchkiss on the other.

"Concluded—That he, Mr. Humphrey Pratt, Junr., will build an house for Frederick William Hotchkiss. The dimensions of the house shall be as follows, viz., 38 feet in length, 29 feet in breadth. 16 feet, posts, in heighth, a plain upright house to be finished on the outside and in the inside carried as far as the completion of the chambers floor according to the manner of that which was the property of Samuel Elliott, Esq., late of this place, deceased, except that it be only a wooden structure, and the fire place in the front rooms, above and below, shall be of brick; that it have a brass lock and ketch of a large kind on the front door, and two knob locks of a smaller kind on the inside door, together with plain works over the windows. The whole specified in calculation made by a committee for that purpose. For the above building Mr. Humphrey Pratt, Junr., is to receive the sum of two hundred and fifty pounds lawful money.

"He likewise engages to provide materials for sd building on the former part of this sum, being for materials and for finishing this house as above specified. Frederick Wm. Hotchkiss on his part is to pay the sum of one hundred pounds lawful money, which money becomes due to him from this society on the 26th day of September, 1784, as soon as the same money be collected, to Mr. Humphrey Pratt. He likewise engages that he will do his endeavor that it shall be collected as speedily as possible or otherwise will give Mr. Humphrey Pratt, Junr., his full power to collect it of the collector, or

committee, and Frederick Wm. Hotchkiss likewise promises that Mr. Humphrey Pratt, Junr., shall hereby become entitled to the remaining sum of one hundred and fifty pounds lawful money due for finishing the house as above on the 26th day of September, 1785, provided sd house be finished as is agreed upon above and provided also that the same sum of one hundred and fifty pounds lawful money which will then become due to Frederick Wm. Hotchkiss from this society be collected by the committee as collector of society, rate or otherwise; if not collected by a reasonable time after that sd 26th day of September, 1785, that he, the Rev. Dr. William Hotchkiss, will, if deposited, give Mr. Humphrey Pratt, Junr., his full power to collect the same of the committee so-called. The same conditions or terms of agreement we, Mr. William Humphrey Pratt on his contract and Frederick William Hotchkiss on the other part, do mutually agree to perform and abide by and faithfully accomplish; witness our hands this 26th day of May Anno Domini, 1784.

Saybrook Society, May 26, 1784.

HUMPHREY PRATT, JUNR.

FREDERICK WILLIAM HOTCHKISS.

"This house settled and paid for and receipt given as per receipt to be seen in full.

HUMPHREY PRATT

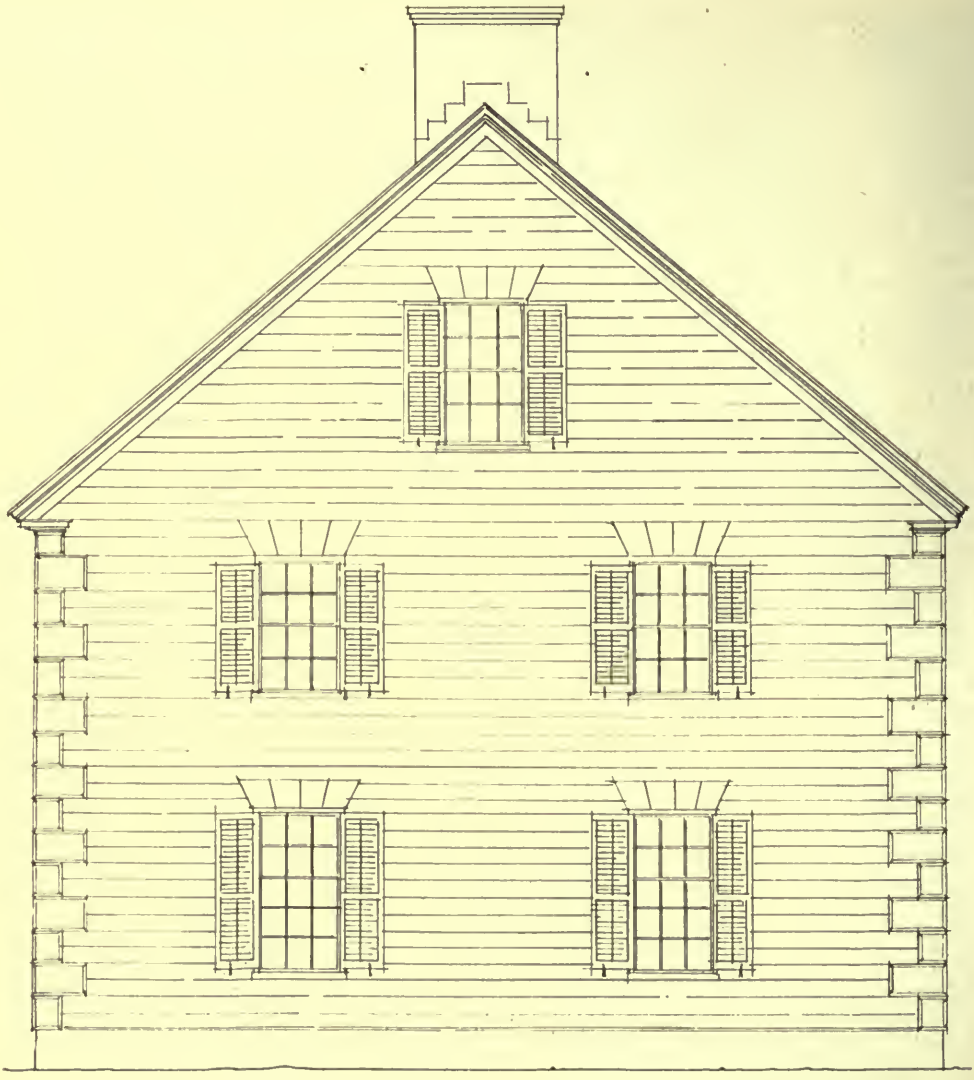
For building my house,

1784."

This agreement is written in the longhand of the day, and the builder was the architect. Along with the agreement was a memorandum of material, of fifty words, so worn that it cannot be made out. In truth, contractors were to be trusted then. It was in this house that Samuel Morse, inventor of the telegraph, lived. Contractors would use Asher Benjamin's "Handbook," or, if earlier. Beatty Langley's "Builders Jewel," to which books are due the great quantity of good detail. The house consisted of four walls and a roof. To quote Emerson, "The line of beauty was the line of perfect economy" probably sums up the architectural merit of the Colonial style.



SMALL HOUSE AT LITCHFIELD, CONN., OF THE PERIOD OF THE GREEK REVIVAL.



STREET FRONT OF THE HAYDEN HOUSE, ESSEX, CONN. MEASURED AND DRAWN BY WESLEY S. BESSELL.



THE HAYDEN HOUSE, BUILT IN 1665. THE SECOND OLDEST HOUSE AT ESSEX, CONN.

The typical small house illustrated on page 362 one will see a great many of in a day's journey. There is also much of the handiwork of the period called the Classical Revival; and may it be said of the builders of that period, they had ability and soundness well worth studying. Just as one period was woven into the other by additions to the English country homes, preserving a beautiful whole, so has this Revival worked into our purely Georgian architecture. After that, however, traditions were broken, and only in spots do we see hope of their return. The small house at Litchfield (page 363) is of this period.

It is interesting to note when comparing the Hayden house at Essex, the home of the gruff old sea captain, with the Wolcott house at Litchfield, the home of the Governor of the State and signer of the Declaration of Independence, that the directness of lines and composition is practically identical; the planning also is the same, and yet these places are a great distance apart.

Essex is a place of interest. One would imagine oneself back a hundred years. Here was the beginning of the Haydens in 1665, the Pratts, the Denisons, and other well-known families. The old Hayden house, illustrated herewith, is a veritable library of knowledge; here has hung for years a woodcut of George III and his consort; here are old knockers brought over from England at the time the house was built by Capt. Hayden; here are beautifully panelled rooms, to be illustrated in a later article; and here also is the quoining at the corners of the building similar to that at Mount Vernon, although this house is of an earlier date. This surely is the beginning of our Colonial architecture. Quaint Essex, with its little streets that end abruptly at the water's edge, or against a little white house. Would there were many more such towns instead of our modern jumble of Spanish Mission, so-called Colonial, English and Modernesque architecture, all shuffled up and filling endless streets with their conglomerant of ideas.

The details are traced in a very interesting manner. The mouldings that were on one house in a town were likewise used on others, showing clearly that the builder had the moulds run from the same knife. These mouldings were very carefully cut out, as one can see by removing the paint from any one member. The cyma recta and cyma reversa, the



FRONT ELEVATION OF THE STARKEY HOUSE, ESSEX, CONN. MEASURED



THE STARKEY HOUSE AT ESSEX, CONN., BUILT IN 1750.



HEZECAH PRATT HOUSE, ESSEX, CONN., BUILT IN 1744. DOOR IS OF LATER DATE.



THE OLIVER WOLCOTT HOUSE, 1752. OLDEST HOUSE AT LITCHFIELD, CONN.



THE NORTON HOUSE, BUILT IN 1803, EAST GOSHEN, CONN.

quarter round, in fact all mouldings, were very carefully studied and used, one with the other, in a manner well worth copying.

The earliest houses had no gutters, but on later ones wood was used for gutters. Today these are replaced by the metal gutters used everywhere. A few of the houses had copper gutters and leaders. Examples of leader heads are few, but some are very exquisite; unlike anything used today, they have usually a long and tenuated feeling.

Sash and frames were made of oak; the frame usually solid wood and the sash doubled, with nine lights to a sash, the glass commonly seven inches by eight and a half inches. No weights were used, windows being held in place by pins slipped through the sash into the frames at a proper height.

The shingles were hand riven, irregular, few of which remain. All clapboards were fastened by the old wrought iron nails with large heads or with oak pins, and at coast and river towns the boat nail was used, very often left clearly exposed to be painted over.

The Starkey house at Essex conveys a dominant impression of repose. The doorway is, as usual, the color note, together with the Palladian window over it. Formerly all the sash contained small lights, and the roof was of shingles instead of imitation shingles in metal. The house is of an early date, and, while alike, it is still unlike the Smith house at Litchfield, built at the end of the Classic Revival.

The Norton house, though not a small house, was built in 1803, about the time when some of the most refined and delicate detail was being executed.

We shall take up in future articles the details, such as doorways, mantels and panelled rooms; and by this means we shall see wherein the beauty of things Colonial lie.



THE LYMAN SMITH HOUSE, BUILT IN 1833, LITCHFIELD, CONN.

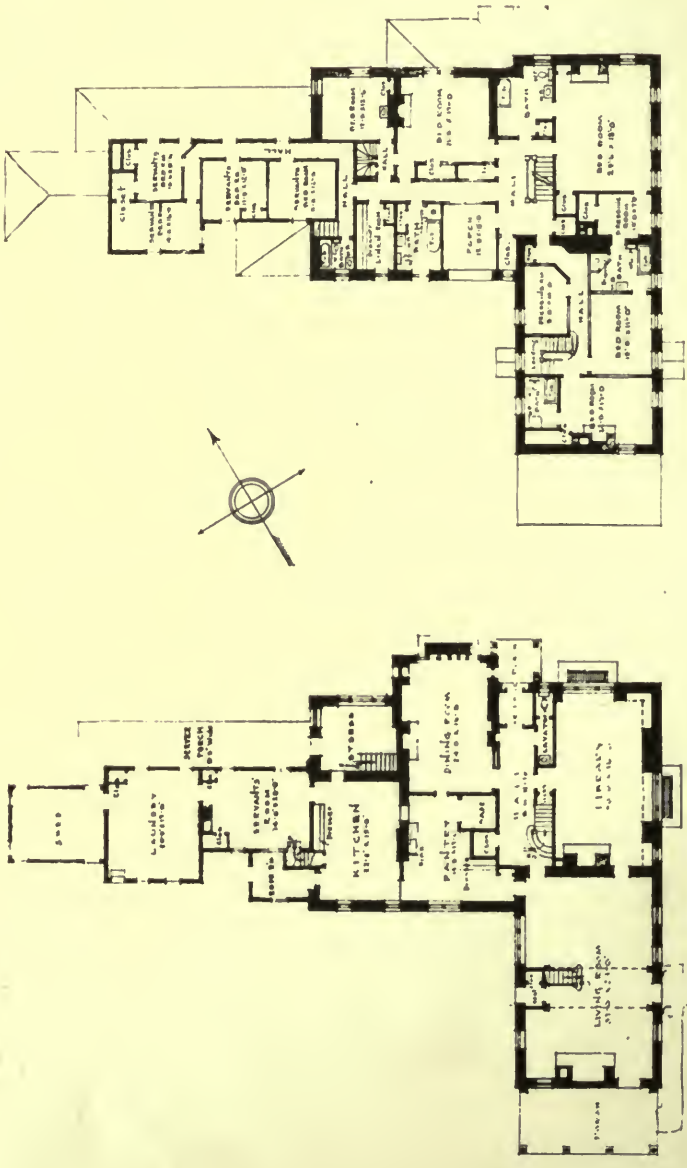


"PENCOYD," BALA, PA. THE OLDEST HOUSE IN MONTGOMERY OR PHILADELPHIA COUNTIES. RESTORATION AND ADDITIONS BY LOUIS CARTER BAKER, JR., ARCHI-

# PORTFOLIO OF CVRRENT ARCHITECTVRE



"PENCOYD," BALA, MONTGOMERY COUNTY, PA. RESTORATION AND ADDITIONS BY LOUIS CARTER BAKER, JR., ARCHITECT.




PLANS OF THE RESTORATION OF AND ADDITIONS TO "PENCOYD," THE HOME OF THE ROBERTS FAMILY, AT BALA, MONTGOMERY COUNTY, PA. LOUIS CARTER BAKER, JR., ARCHITECT.

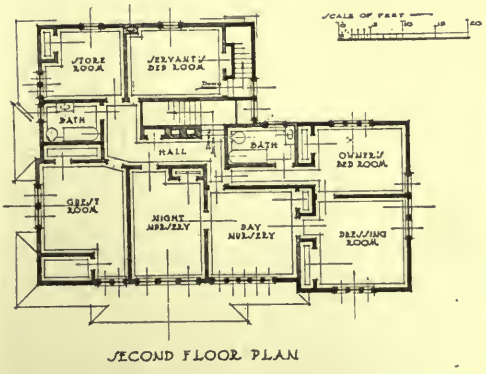


THE OLD KITCHEN FIREPLACE AT "PENCOYD," BALA, PA., AS RESTORED.
LOUIS CARTER BAKER, JR., ARCHITECT.

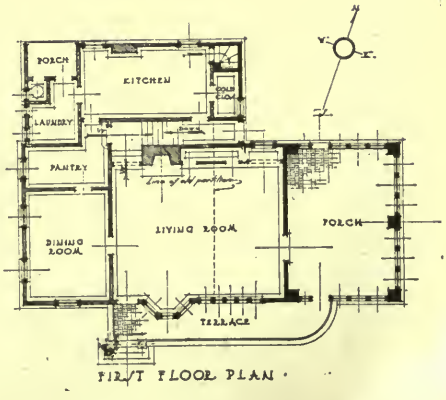


HOUSE OF HENRY S. DRINKER, ESQ., WYNNEWOOD, PA., AS ALTERED AND ENLARGED BY MELLOR & MEIGS, ARCHITECTS



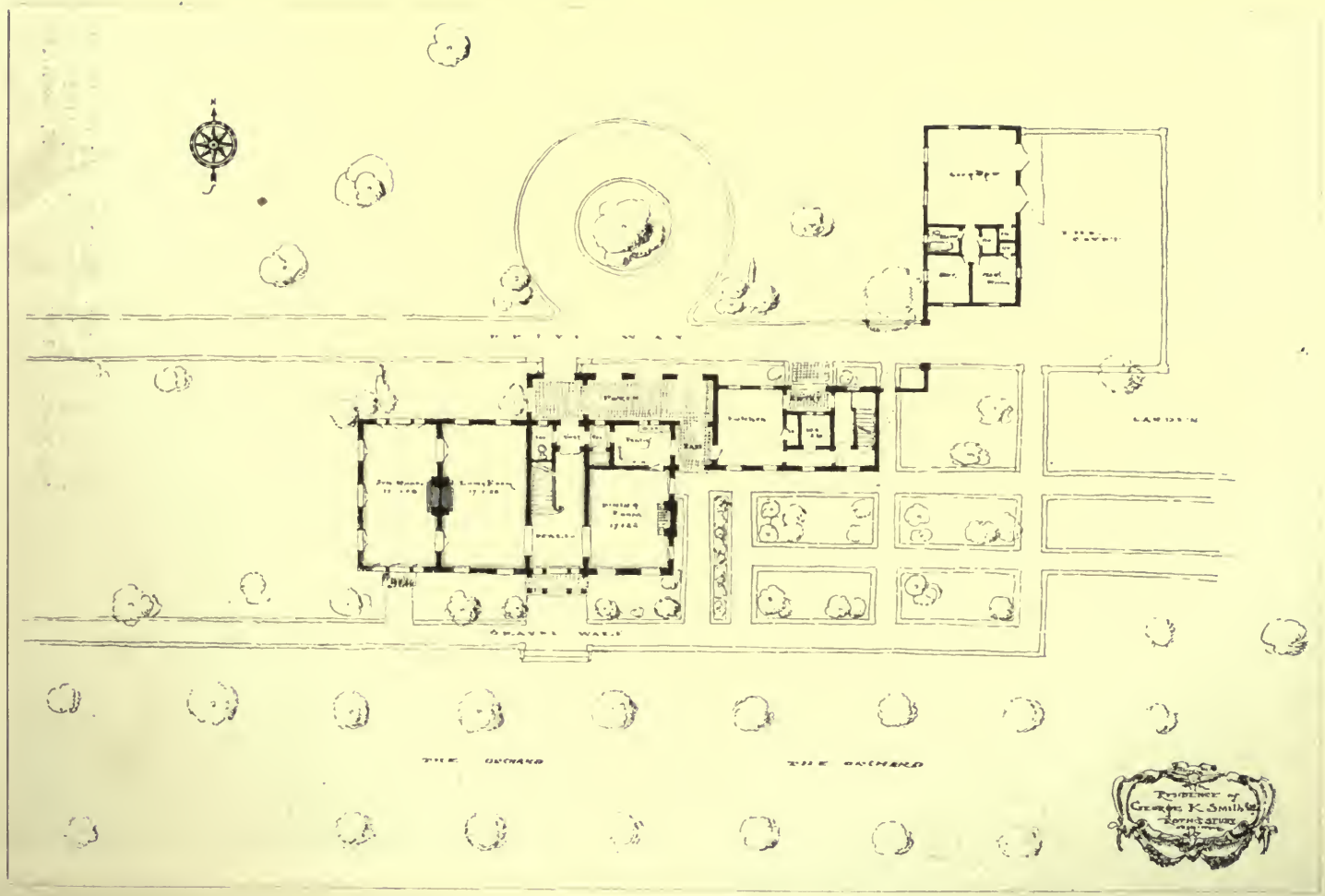



SECOND FLOOR PLAN




FIRST FLOOR PLAN.

LIVING ROOM AND PLANS—HOUSE OF HENRY S. DRINKER, ESQ., WYNNEWOOD, PA. ALTERATIONS AND ADDITIONS BY MELLOR & MEIGS, ARCHITECTS.



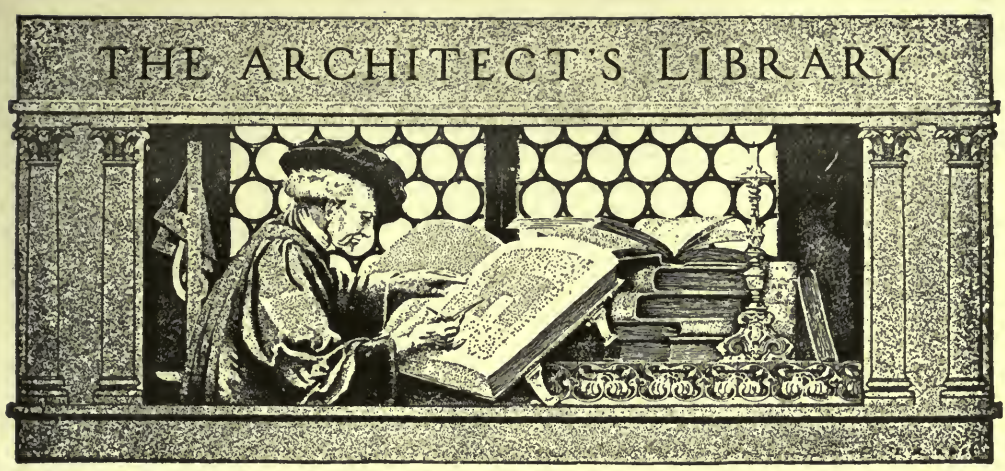

– PLAN OF GROUNDS AND HOUSE OF GEORGE K. SMITH, ESQ., ST. LOUIS COUNTY, MO. ROTH & STUDY, ARCHITECTS.



HOUSE OF GEORGE K. SMITH,
ESQ., ST. LOUIS COUNTY, MO.
ROTH & STUDY, ARCHITECTS.



DOORWAY—HOUSE OF GEORGE K. SMITH, ESQ., ST. LOUIS COUNTY, MO. ROTH & STUDY, ARCHITECTS.




# BOOKS FROM UNIVERSITY PRESSES

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART II.

THE Princeton University Press has also issued a volume of high quality in *Luca della Robbia* by Allan Marquand (No. III of the Princeton Monographs in Art and Archaeology; Princeton University Press, Princeton, N. J.; pp. 286; quarto, $7.50. This is arranged as a catalogue raisonné of the works of the great architectural colorist of the fifteenth century, in which the artist's works are chronologically listed. Documents bearing on his life and activity are printed where found advisable and careful bibliographies, arranged by centuries, appear after each number of the catalogue. This volume is likewise the first of a series. There will ultimately be four concerning the family of the name of Robbia; the second will concern Andrea della Robbia, the third Giovanni della Robbia and the fourth the Robbia School.

The body of the present volume is preceded by a biographic introduction, to which are appended a number of documents concerning Luca in the original Italian. One hundred and twenty-seven works are listed, and these are grouped in five chapters, each covering a decade of Luca's creative life, beginning 1430 and ending 1480, followed by a sixth section including works in the manner of Luca della Robbia.

Luca della Robbia was born in 1399 or 1400. His chief activity was in stone, marble, bronze and terra cotta, although Vasari claims that his father set him to learn the goldsmith's art under Leonardo di Ser Giovanni. Donatello's influence has by many been traced in Luca's work, notably in the Cantoria and Campanile reliefs at Florence, but Professor Marquand demonstrates that Luca's works both antedate those of Donatello whence their inspiration is supposed to have emanated, namely the latter's dancing children at Prato and at Florence and his disputants in bronze on the sacristy doors of S. Lorenzo. It is not to be doubted, however, that the advice of Donatello was welcomed by della Robbia; this is seen in the consistent use of receding planes in the marble altar of S. Pietro, a manner not generally preferred by Luca. Other noteworthy influences in the work of this artist were those of Brunelleschi and of Lorenzo Ghiberti. The effect of the former "could hardly have extended much beyond architectural details," whereas strictly sculptural portions of

Luca's works show a dependence on Lorenzo Ghiberti. The best work of this member of the della Robbia family was done for the Florentine Duomo, although his efforts did not lack the appreciation of the great houses of art patrons, such as the Medici, notably Cosimo and Piero, the Pazzi, Buondelmonti and Capponi.

Luca's works were "varied in character, comprising a choir gallery, bronze doors, lunettes, ceilings, pavements, decorative and commemorative medallions, altarpieces, shrines, statues, groups and a sculptural monument." Although he favored the architectural point of view—"his mouldings deserve careful study"—on one hand; his reliefs, on the other, "exhibit little interest in the problems of perspective and anatomy, which attracted so much attention in his day." Luca's results show that he loved nature and revered religion. He has a deep sympathy for the form and color of flowers and of fruits. Although animals attract him little, the human form engrosses him. Above all, he is known by his profound feeling for the beauty of womanhood, and the exuberant life and simplicity of child life. His sole contribution to his art was "the application of white and colored enamels to terra cotta figures and reliefs." Professor Marquand doubts the stock statement that the della Robbia glaze was a secret composition, for which the formula has not yet been discovered. He points out that "glazes of a similar character had been employed by Egyptians and Persians in ancient times, and to a limited degree by Greeks and Romans. Throughout the Middle Ages majolica, or glazed faience, was still made in Italy, and many towns began to be celebrated for the manufacture of majolica before Luca was born." Luca used his glaze as a substitute for marble, with the result that his figures are generally white. His color sense was one of ultimate refinement, and his sense of fitness or appropriateness for the purpose to be served was at the bottom of each of his undertakings. In his conceptions, he was ever a naturalist, but a saving grace of artistic restraint prevented him from being a thorough realist. His death occurred in 1482, after the great era of ceramic work inaugurated by his nephew, Andrea della Robbia, was already well under way.

Professor Marquand's work is a marvel of care and accuracy, its arrangement is destined to render it highly useful. Although there are no colored illustrations, the one hundred and eighty-six reproductions presented give a fair idea of the man's work in a field which is at the moment much neglected, namely that of the introduction of color in architecture.

The commanding authority of Vitruvius has cast its portentous shadow across the path of the Renaissance. It has dominated with transcending force the development of antique forms in their modern interpretation in such degree, that his work itself may justly be called a classic, though it is not characterized by marked literary graces. The small matters of the identity of the author, the time at which he flourished, the authenticity of his master work, and, by way of climax, the actual and observational foundation for the theories, principles and processes of which he discourses, have for many a day been moot questions; they have periodically engaged men's minds, but have not finally been invested with sufficient fact and reality to give them a definite place in the history of architecture. To this day we are not fully assured that Vitruvius lived in the Augustan age, though Latin philologists generally agree on that period.

His work appears in its first American translation under the auspices of the Harvard University Press, with the title *Vitruvius: The Ten Books on Architecture,* translated by Morris Hickey Morgan, with illustrations and original designs prepared under the direction of Herbert Langford Warren, revised and edited for publication by Albert A. Howard (Harvard University Press, Cambridge, Mass.; crown octavo; pp. xiii—331, index; $3.50). Other translations into German and into French have appeared recently, the latter by Choisy. Like all classic writings of equivalent importance the work under discussion was frequently transcribed; the latest of the transcriptions dates from 1316. What may be called the first edition dates from

1486, while under Julius II, Fra Giocondo, at one time an associate architect of St. Peter's, published a critical edition, which has furnished a number of the illustrations used by Professor Warren for the present translation. This is the fourth version in English; the first was by Newton (1791), the second by Gwilt (1826), the third by Wilkins (1872).

But who was this embodiment of architectural omniscience and what was his place in architectural development? To begin with, the manual of Vitruvius is the only work of its type. Much of it is the result of his personal experience, although we know of only one work of his hand in the practical field, the Basilica of Fano; on the other hand, he was greatly indebted for much of his material to Anaxagoras, Ictinus, Theodorus and others. At a time when archæological investigation was as undreamt of as the Martian canals, when the beauties of Imperial Rome were crumbling with neglect or served as quarries for current work, there was no other record of old Roman building, much less of that of Greece. In the eyes of the architects of the Renaissance he was the corner stone of professional faith. Alberti borrowed from his work in preparing his *De Architectura*; Palladio writes: "I proposed to myself Vitruvius as my master and guide"; in Chambers' *Civil Architecture,* his name often appears, while in Newton's translation he is proclaimed "the father of the art." Although in his lifetime he seems to have been a sort of pariah, in his own opinion, at least; in the centuries following his time his word became gospel, with never an attempt at verification. For these reasons Professor Morgan's new translation has an added value; it is a careful and thorough work by an able student of the classics; while Professor Warren's exact knowledge of ancient building has contributed valuable assistance.

For Vitruvius the word "architecture" had an all embracing connotation. At the end of his volume, he says: "Such principles of machines as I could make clear, and as I thought most serviceable for times of peace and of war, I have explained in this book. In the nine earlier books I have dealt with single topics and details, so that the entire work contains all the branches of architecture." The "single topics and details" will be found to cover methods of finding water and the construction of cranes, astrology and weather prognostics, musical theory and chronometry, not to mention purely architectural matters, such as planning, construction, orders, materials and theory of design. But it was a characteristic of many an old treatise to attempt to span the universe; and we are mindful of an ancient and sturdy encyclopædia of universal knowledge in one volume.

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### A NEGLECTED SUBJECT

VERY few writers of books have the good fortune or the good sense to write books which deal adequately with a hitherto neglected subject, and when such a book is written and published it deserves more than usually close attention. Mr. Cecil C. Evers' book on *The Commercial Problem in Buildings** does deal with a hitherto neglected subject, and, what is more, it discusses and explains this subject with exact and exhaustive knowledge and with the utmost perspicacity.

Considering the large number of people all over the United States who are vitally interested in the development and the management of urban real estate, it is extraordinary that so little writing has been done upon the subject. Mr. R. M. Hurd's "Principles of City Land Values" remains almost the only adequate discussion of the conditions which actually determine the price of urban land, and the work which was so well begun eleven years ago by Mr. Hurd is now carried on by Mr. Evers. The latter's book is in a real sense supplementary to the former's. The former explained the conditions which give value to the sites upon which city buildings are erected. The latter deals with the conditions which determine successful building in cities for commercial purposes.

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*The Commercial Problem in Buildings. A discussion of the economic and structural essentials of profitable buildings, and the basis for valuation of improved real estate. By Cecil C. Evers, vice-president of the Lawyers' Mortgage Co. Ill. 8vo, 271 p., index. New York: The Record and Guide Co. $1.50.

Mr. Evers, like Mr. Hurd, has every reason to know a good deal about urban real estate, because he is professionally engaged in deciding whether certain classes of buildings are likely to be profitable on particular sites. The examples which he uses in order to give point to his assertions are for the most part those which have come under his own observation.

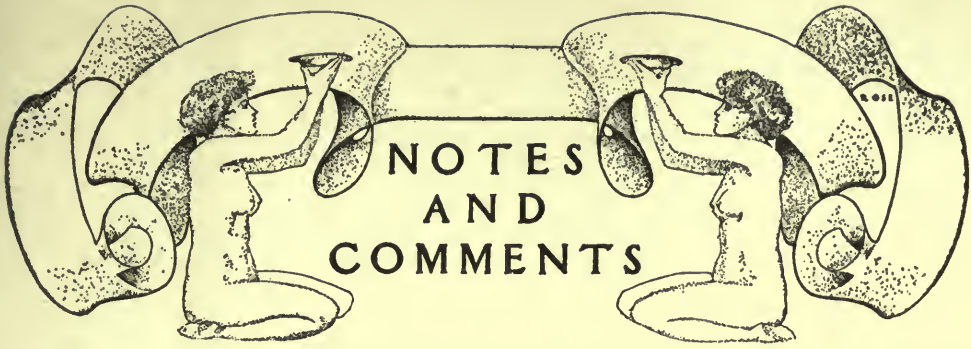
The distinguishing quality of the book is its eminent and complete serviceability. It is, properly speaking, a manual for the man who is interested in building houses for commercial purposes of any kind or in any city. The careful reading of the book is almost certain to enable such a man to avoid mistakes and to save money, and a very little exercise of intelligence will help the reader not only to avoid mistakes, but to achieve successes and to make money. That is the great value of a careful study of a concrete business condition, such as Mr. Evers has made. It places at the disposal of owners and builders all over the country the fruits of a varied and prolonged experience in watching the success of building operations and of a patient and exact study of the causes of success or failure.

Perhaps the best way to convey an adequate idea of the scope and value of the book will be to enumerate some of the topics which Mr. Evers discusses. The first four chapters are occupied with an examination of the more general aspects of the subject. Mr. Evers dwells upon the rapid growth of cities, of the increased variety and complexity of the types of buildings needed in a modern city, and the conditions under which the ordinary demand is met. He separates the commercial problem involved by urban building into two parts. One of these concerns the real estate problem, including the study of the site, its surroundings, accessibility, and in general all the exterior factors. The other concerns the building proper, including the cost, the number of stories, the size, the planning, the elevator equipment, and in general all the interior factors, which determine success or failure.

The larger part of the book is naturally occupied with a discussion of the interior factors. Not that the interior factors are more important than the exterior ones, but they are more numerous, more complex and on the whole not so well understood. In the chapter devoted to the exterior factors he discusses, however, such matters as accessibility, approach, transportation, topography, street plan, shape and size of building lots, the comparative value of corner and inside lots, paving, the width of streets, nuisances, restrictions, taxation and other artificial interferences with natural tendencies. The end of this chapter contains an admirable summary in which the beneficial and detrimental exterior influences upon each class of building are classified and placed in parallel columns.

Mr. Evers' investigation into the internal factors is equally exhaustive and helpful. He discusses in the first place the structural problem in its general aspect and insists upon the importance of harmonizing a building with its surroundings and of making its cost proportionate to that of the land. He goes exhaustively into the requirements in the way of good planning, light and air, convenience and the like, which all buildings need, no matter whether they are devoted to business or residential purposes. Then he takes up the special requirements which different classes of buildings have to meet. He discusses in turn private residences, two-family houses, business buildings in general, and retail stores in particular. Finally he goes exhaustively into the structural life of different classes of buildings, how fast they depreciate, how they can be most economically maintained and operated. All the points which Mr. Evers makes are driven home by numerous examples. The book abounds in useful facts and illuminating figures. Over sixty illustrations are published, showing instances of good and bad plans, successful and unsuccessful buildings.

H. C.




**Tapestry Brick in a Large Composition.**

The White Plains station of the New York Central Railroad which was opened a few weeks ago is one of the most interesting examples of the use of what has come to be known as "tapestry" brick in the neighborhood of New York. Both inside and out, this material has been employed for the wall surfaces. The architectural scheme of this building is big, but simple in the extreme, the detail being confined almost entirely to the pattern and texture variations of the brick, which are cleverly done. The wide frieze under the main cornice is of especial interest. The building impresses one as being adequate and absolutely permanent and of distinct architectural merit.

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**An Authentic Restoration of a Fine Old Residence.**

At our request Mr. Louis Carter Baker, Jr., who designed the very interesting restoration of Pencoyd, the historic home of the Roberts family at Bala, Montgomery County, Pa., shown on pages 370 to 373, has prepared the following note:

"About a year and a half ago I was employed by the present owner to restore the house, and alter it as far as possible to conform to the original lines. In this connection it is interesting to note that Pencoyd is said to be the oldest house in Philadelphia or Montgomery counties. It is of the early Pennsylvania Dutch type, built of field stones, laid in rubble masonry, with many flint stones in the wall, which varies from two feet to sixteen inches. The character of the workmanship and of the mortar in the walls also varied considerably. Lookouts or peep-holes were found in the old walls, from which it is supposed the hostile Indians were observed and fired at. I also found in the middle of the walls several hewn blocks of cherry wood; for what purpose they were inserted in the walls, I was not able accurately to determine.

"It was built in 1683 by John Roberts, who was the first settler in that section. He came from Wales, and procured his grant of about 250 acres of land from William Penn, in England, before sailing. His original account of his coming and settling here, and of his naming the place Pencoyd (originally spelled Pencoid) is now in the family possession. The place has passed by will from father to son, since 1683, without a break or deed, and the present owner is the eighth generation to live in it.

"The house has been changed many times, each generation, so far as I was able to observe, making some changes; but the original house, about forty feet by twenty-eight feet, has always remained, with the original oak rafters, joists, etc. There is no account of, nor can any of the family remember, whether the window frames and sash have ever been changed from the original, but their present size and design would indicate that at some time new window frames were placed in the old walls.

"When I took hold of the house it was a conglomerate mass of alterations and additions, some of them extensive and costly, especially those added by the late George B. Roberts, president of the Pennsylvania Railroad, but they were all torn down, and the original walls simply lengthened, as is shown in the photograph. The old kitchen fireplace was uncovered and repaired (see page 373). The old kitchen is now a living room.

"Pencoyd is notable among Philadelphia's country homes, because of its age, its unique and attractive setting, and because it has been the home of a notable family, without a break, for eight generations. Penn Cottage, at Wynnewood, built in 1693, is the next oldest house in the vicinity; the

old Merion Meeting House, another ancient structure, having been built in 1695."

In fitting up the new interior, floor boards, trims, doors, mantels, hardware, and the like, taken from old houses throughout the country, suitable and proper for this purpose, were procured. The interior therefore represents, as far as possible, and as far as conformable with modern uses, an accurate and veritable reproduction.

---

**Glass Houses.**

The Berliner Bauwelt publishes an account of the glass houses of the future by Paul Sheerbart. On the assumption that with the exception of air, light is the most important agent toward happiness and health, Herr Sheerbart prophesies that wood, stone, brick and other recognized materials of these many centuries will play no part in the houses of the future. An absolutely sanitary structure of glass, doubled for warmth, will be supported upon an iron skeleton or framework, the latter of course the contribution of the present building age and already fully understood. At the Cologne Exposition, the architect Bruno Traut erected a glass building, the first conscious exemplification of the new structural creed.

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**The Lincoln of the People.**

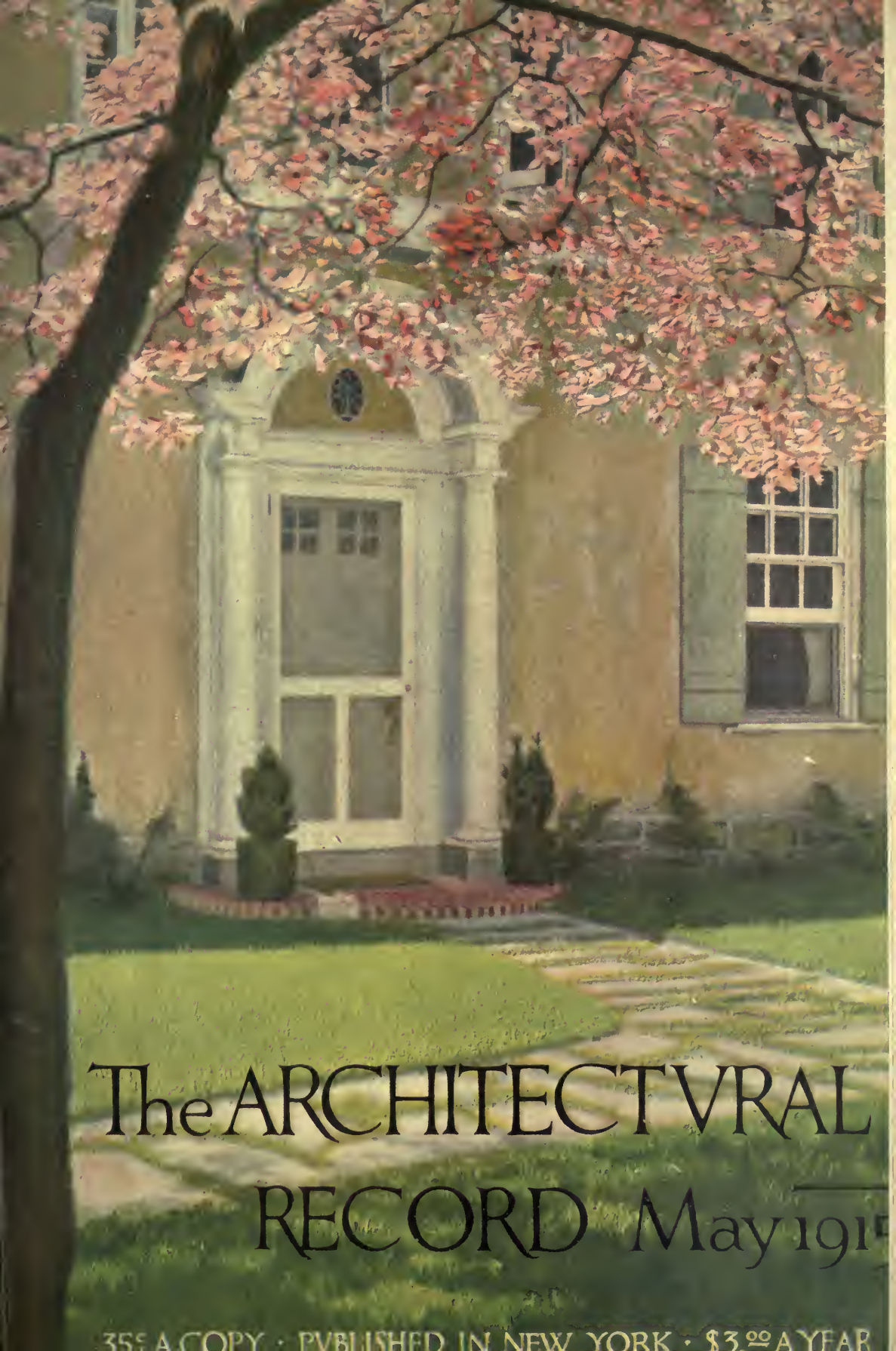
The selection of Daniel C. French as sculptor for the statue of Lincoln to be placed in the Lincoln Memorial at the foot of the Mall in Washington is a logical one. Mr. French undoubtedly stands in general estimation at the head of the American sculptors of today. The selection, while it presents the greatest possible opportunity for an American sculptor, at the same time carries with it a tremendous responsibility. The nation will demand that this figure of Lincoln shall embody those great traits which it most admired in the man. Mr. French's Lincoln of the Nebraska State Capitol will not do, beautiful and appealing as it is. I have seen a great room full of people stand hushed in awe before the pathos of that figure, but it is not pathos that must be the characteristic of the Lincoln of the Washington Memorial. It should have something of that, but it should have above and beyond more of the iron character of the man who stood firm and undismayed through the storm and stress of the Civil War; it must have the loftiness of that character that towered clear above the calumny and opposition of enemies at home, and the keensightedness which saw through all sham and beyond the clouds of doubt and disappointment into the clear future of this great land; and, withal, it must have something of the keen humor and the kindliness which endeared him to small and great. If Mr. French produces the Lincoln that the people have set up in their hearts, great will be the glory of it, but it is a task which should be entered upon with fasting and prayer.

Electus D. Litchfield.

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**The Yale Bowl and the Palmer Stadium.**

The erection of the great athletic stadia at New Haven and Princeton is not among the least notable architectural achievements of the past year. It is quite probable that some future archaeologist in studying the architectural remains of the present period of American architecture will consider these great amphitheatres for athletic games as among the most interesting products of our time. The Yale Bowl is a more finished architectural design than the Palmer Stadium. Architecturally, the latter does not seem wholly satisfying, though in some respects it has advantages over the Yale Bowl. One has a little of the feeling that one wishes it were a little bit more Gothic, more Roman, or, frankly, more American of the year 1914. On the other hand, reinforced concrete does not lend itself very readily to Gothic architecture, and one can readily understand the difficulty of producing a structure of this nature which would be in keeping with the delightful Collegiate Gothic of the Princeton University buildings. From the spectator's point of view, the Palmer Stadium has a definite advantage over the Bowl, in that, owing to its shape, it is possible to bring the seats closely to the side lines of the football field. The same result is also obtained by making the ranges steeper. Then, too, there is something very delightful in having the horseshoe open out to the sun and to the very beautiful view to the south. One cannot help but being impressed after seeing these splendid structures with the feeling that at last we have decided to build not for today but for all time.



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STAIR HALL—RESIDENCE OF E. I. CUDAHY, ESQ., CHICAGO. OTIS & CLARK, ARCHITECTS.

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# THE ARCHITECTVRAL RECORD

MAY, 1915

VOLVME XXXVII NVMBER V


## EXAMPLES OF THE WORK OF OTIS & CLARK

By HERBERT CROLY

A WELL known English critic recently drew an interesting comparison between the general characteristics of the English literary movement of to-day and that of the Victorian period. The comparison turned chiefly on the absence of literary men of exceptional ability in contemporary England, but the presence of a very high average of men of ability both in respect to prose and verse. England has no novelists or poets comparable to the great Victorians, but she has an extraordinarily large number of writers who are abler than any except the ablest of the Victorians, and who maintain a high standard both in form and substance. Genius is lacking, but talent abounds.

The foregoing generalization applies, it would seem, to other occupations besides letters and to other countries besides England; England has no statesmen or orators who tower above their contemporaries as did Gladstone, Disraeli and John Bright. She has no scientists whose eminence is comparable to that of Huxley and Tyndall. At the same time there is certainly a larger amount of hard, sound work accomplished at the present time both in politics and in science than there was a generation ago. Germany also seems to lack both politicians and generals who measured up to the standard of the founders of the Empire, but the lack of very great men does not prevent her from putting into action what is apparently the most efficient machine for fighting a war and for ameliorating its unfortunate effects on her own population which the world has ever seen.

These analogues are worth some attention, because something of the same movement seems to be taking place in American architecture. The modern architectural revival in this country has

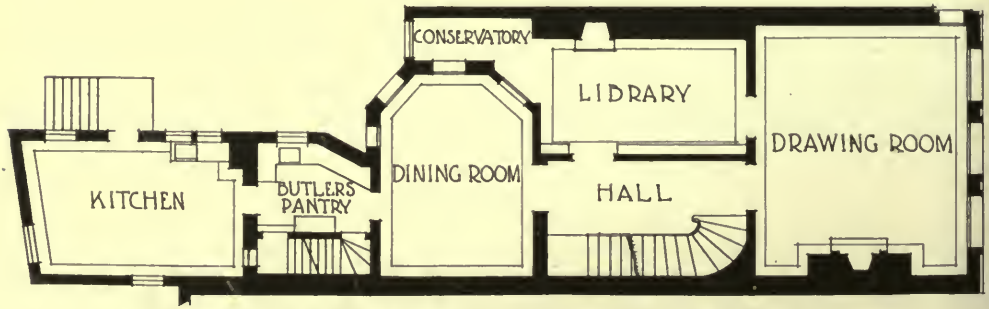
been profoundly influenced by the work of a few men such as Hunt, Richardson, McKim, White and Sullivan. At the present time all but one of these men are dead and he no longer possesses his former influence. New designers have been developed of equal ability, but they do not stand out among their contemporaries as did the men named above, and they are not copied to the same extent. The place of Richardson and McKim has been taken by a small army of younger architects of varying ability but of generally high standard. All over the country an extraordinary amount of clever, well considered and interesting work is being turned out. This work frequently possesses a great deal of distinction; but it has the distinction not of originality or of force, but of ease, competence and good manners.

Work such as that of Messrs. Otis and Clark suggest the foregoing introductory remarks. It is sound and intelligent work, which is well-informed without a trace of pedantry, and which conforms to conventions without being stiff. It makes no pretense to originality, but its want of originality does not prevent it from being fresh and even lively in appearance. One feels that the architects are at home in their work, that they are getting through it without effort and on the whole without very much friction. Twenty years ago the ability to design such houses as these, particularly in the vicinity of Chicago, would have required a large amount of originality, effort and prestige. However much American architecture may lack men of great individual force, it certainly provides increasing opportunities for the achievement of diversified, agreeable and accomplished work.

A very simple and attractive design is that of the Indian Hill Club, at Winnetka, Ill. It consists essentially of a long, low one and one-half story building with a peaked roof, resembling an enlarged New England farmhouse; but this long building has two wings of the same height, and the space between the wings is enclosed and made a one-story hall. It remains as unpretentious as a New England farmhouse and it has the same sort of charm. If a New England farmer could have become affluent without acquiring social presumption, he would have built for himself this kind of a residence. It does not even make the comparatively modern claims of a manor house. It belongs essentially to a man who farms his own land, who cultivates his own garden, and that is the kind of man which an American ought to be.

The members of the Indian Hill Club are to be congratulated upon having a home which has been kept so completely domesticated.

An interesting variation on the same general type is the residence of Mr. Chas. M. Rankin at Terre Haute, Ind. This house consists of a two-story and attic main building. On the entrance side this main building is supplemented by an extension, containing the kitchen, the servants' rooms and the garage. This extension joins the body of the house at an angle, and the plan has enabled the architects to make a very pleasant arrangement for the approach to the build-




FIRST FLOOR PLAN—RESIDENCE OF E. I. CUDAHY, ESQ., CHICAGO.
Otis & Clark, Architects.



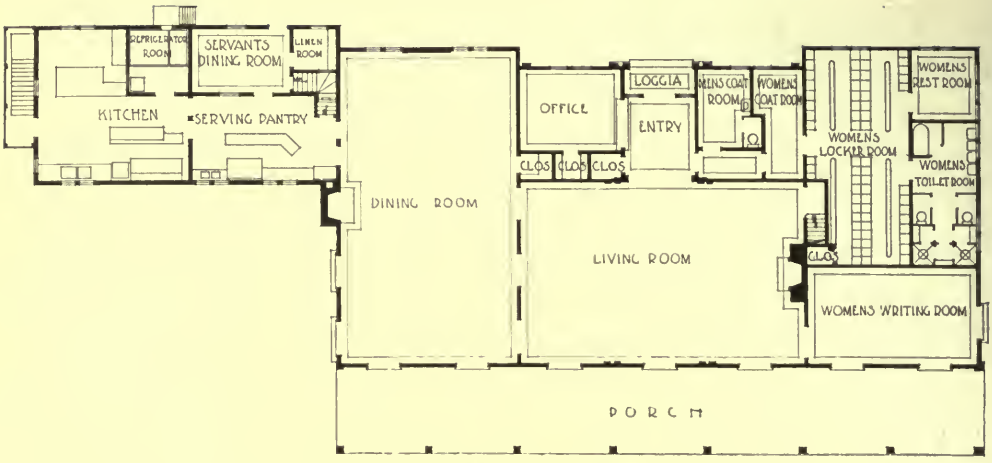
RESIDENCE OF E. I. CUDAHY, ESQ.
CHICAGO. OTIS & CLARK, ARCHITECTS.



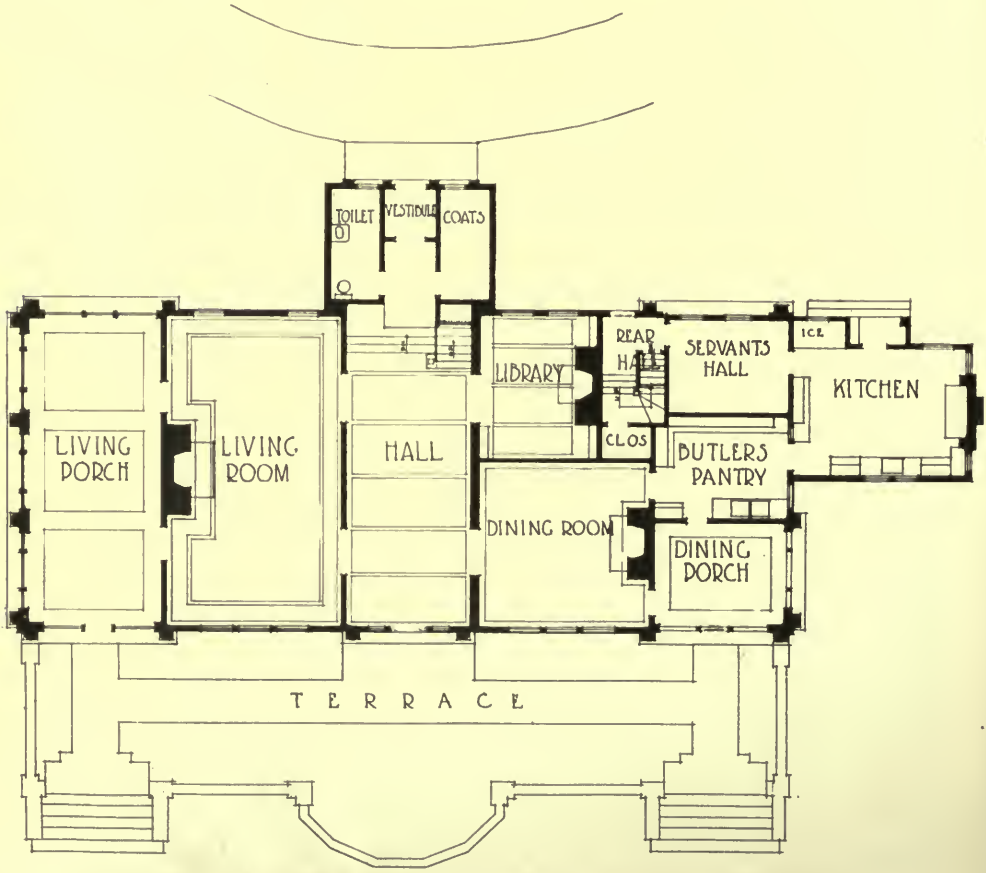
DRAWING ROOM—RESIDENCE OF
E. I. CUDAHY, ESQ., CHICAGO.
OTIS & CLARK, ARCHITECTS.



INDIAN HILL CLUB, WINNETKA, ILL. OTIS & CLARK, ARCHITECTS.




FIRST FLOOR PLAN—INDIAN HILL CLUB, WINNETKA, ILL.
Otis & Clark, Architects.




FIRST FLOOR PLAN—RESIDENCE OF F. H. SCOTT, ESQ., HUBBARD WOODS, ILL.
Otis & Clark, Architects.



TERRACE OVERLOOKING LAKE MICHIGAN—RESIDENCE OF FREDERICK H. SCOTT, ESQ., AT HUBBARD WOODS, ILLINOIS.
Otis & Clark, Architects.

ing. The arrangement is unconventional and effectual, while at the same time being compact and convenient. Although the architectural style is not picturesque, the effect of the design of the entrance side is sufficiently irregular to have an element of the picturesque in it, to which the low, one-story garage, whose roof runs into that of the extension, contributes very much. The practice of incorporating the garage with the design of the house is becoming more and more popular, particularly in the case of modest suburban places. There is no real need of removing it to a distance, as was the case with a stable.

On the garden side of the Rankin place the corner and garage extension almost completely disappear from view. From this aspect the dwelling looks like an unusually large two-story farmhouse seated on a terrace and provided with all the modern conveniences. It is above all a comfortable and homely kind of building, but with a homeliness that is not devoid of refinement and good taste. Whatever else may be said for American architecture, it is certainly creating a more appropriate and interesting type of house for middle class people than is the architecture of any foreign country.

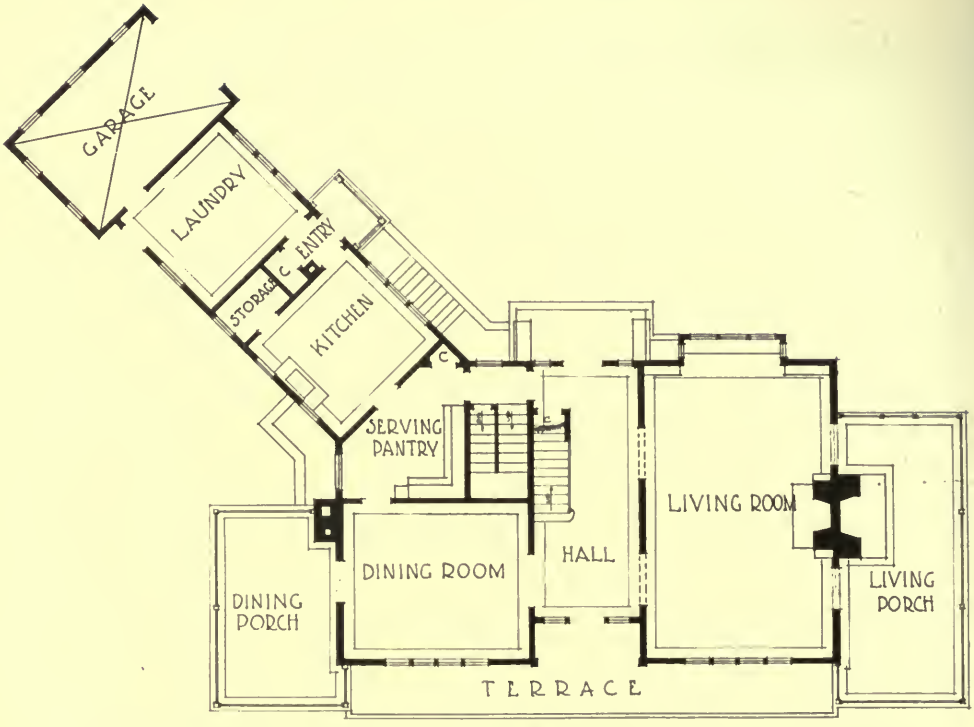
The most elaborate house designed by Messrs. Otis and Clark is the Thorne place, situated at Lake Forest, Ill. A residence of this kind is intended for comparatively wealthy rather than for moderately well-to-do people, and its design is, consequently, more largely determined by the historical dwelling occupied by similarly fortunate people of other times and countries. This particular dwelling is a discreet and tasteful adaptation of a French chateau to the needs of a contemporary American family. The entrance facade is particularly successful and may partly be characterized as one of the most sympathetic and reticent attempts which has been made in this country to domesticate in the United States this particular style. It is regular and formal without being stiff, and it is handsome and stylish without being ornate and ostentatious; above all, the architects have succeeded in



GARDEN—RESIDENCE OF CHARLES M. RANKIN, ESQ., TERRE HAUTE, IND. OTIS & CLARK, ARCHITECTS.



RESIDENCE OF CHARLES M. RANKIN, ESQ., TERRE HAUTE, IND.
OTIS & CLARK, ARCHITECTS.




FIRST FLOOR PLAN—RESIDENCE OF CHARLES M. RANKIN, ESQ., TERRE HAUTE, IND.
Otis & Clark, Architects.



RESIDENCE OF CHARLES M. RANKIN, ESQ., TERRE HAUTE, IND.
Otis & Clark, Architects.



RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS.



RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS.



TERRACE—RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS.



GARDEN AND BATH HOUSE—RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS



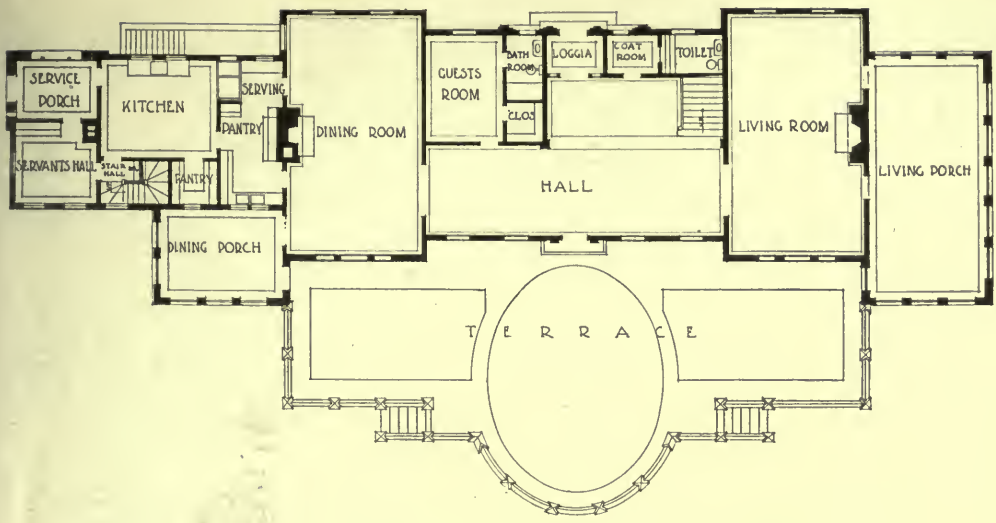
HALL—RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS.



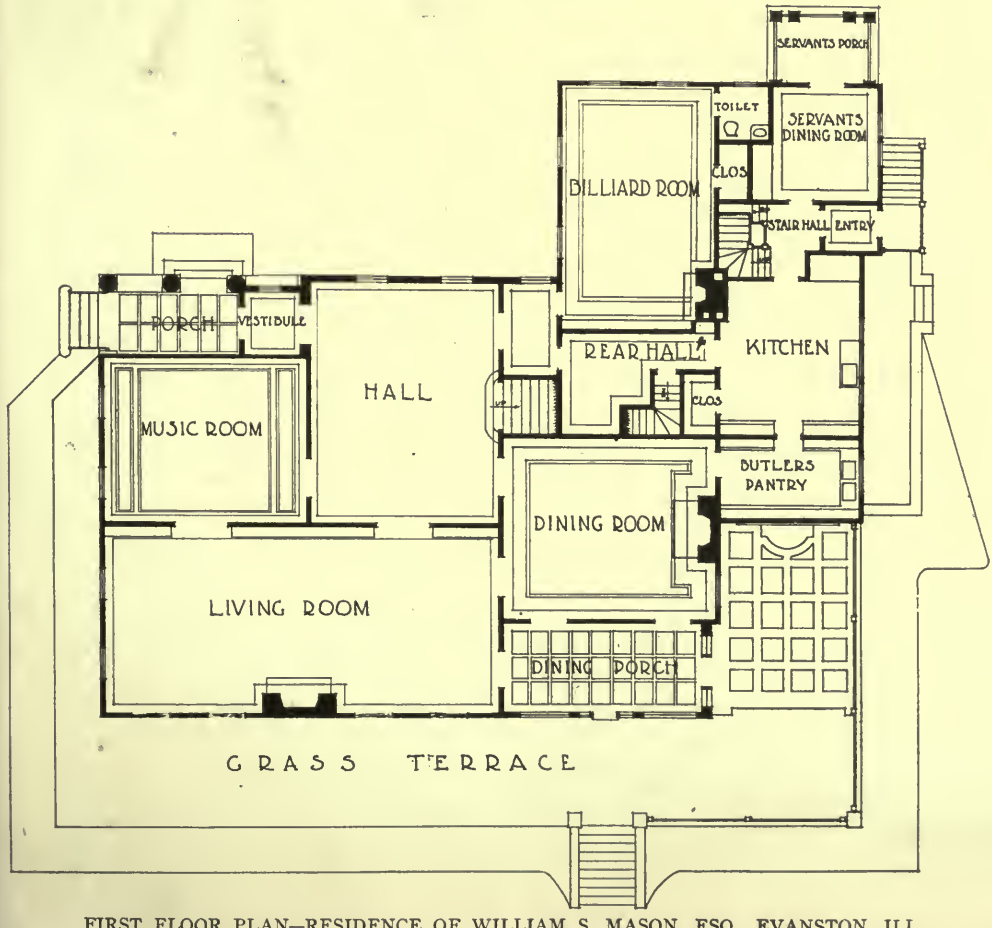
DINING ROOM—RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.

avoiding the archaic appearance which has been one of the most objectionable aspects of so many American chateaus. For all its conformity to a particular style, it looks like a modern American residence, though it would be difficult to say just how the architects have succeeded in giving this modern accent to the language of another century. The one blemish in the design of this entrance facade is the second story windows in the extension. They are on the same level as the windows in the main building, but, inasmuch as the ceilings are lower, they have been allowed to break through the line of the roof in an extremely objectionable way.

The other facade of the Thorne house, is supplemented by a handsome terrace, which forms the scenic background for what is in reality a private outdoor living room. This facade is less interesting than the entrance frontage. The architects were obliged to choose between remaining true to the type or of adapting the historic model radically and frankly to modern American needs. They quite properly chose the latter course. Their adaptation amounts in this case almost to a transformation. They sacrificed the style to the needs and wishes of the people who were to live in the building. The terrace frontage has little of the simplicity and the distinction of its more public brother. It gives one the impression of being chiefly windows and awnings, and of course it looks better on days when the awnings can be rolled up. It remains true, none the less, that the French chateau style needs for its proper effect high unpierced wall space and high repose. The terrace facade has been designed to meet a real need for sunlight and other modern conveniences, but like so many modern contrivances, it is restless just because it is useful, and it lacks character. Neither does the smaller frontage look very well from the garden, which has been laid out to the west of the house in an attractive background of trees. Here again appearance has been somewhat sacrificed to convenience. The spacious porch, which leads to the garden, is excellent in itself, but it was difficult to place




FIRST FLOOR PLAN—RESIDENCE OF JAMES W. THORNE, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.




FIRST FLOOR PLAN—RESIDENCE OF WILLIAM S. MASON, ESQ., EVANSTON, ILL.
Otis & Clark, Architects.



ENTRANCE—RESIDENCE OF WILLIAM S. MASON, ESQ., EVANSTON, ILL. OTIS & CLARK, ARCHITECTS.

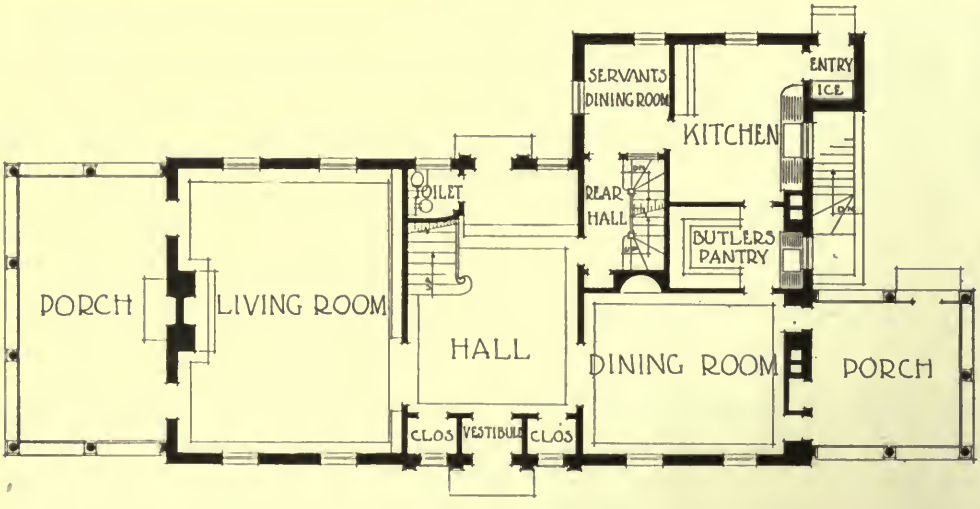


RESIDENCE OF WILLIAM S. MASON, ESQ., EVANSTON, ILL.
Otis & Clark, Architects.



DINING ROOM—RESIDENCE OF WILLIAM S. MASON, ESQ., EVANSTON, ILL.
Otis & Clark, Architects.





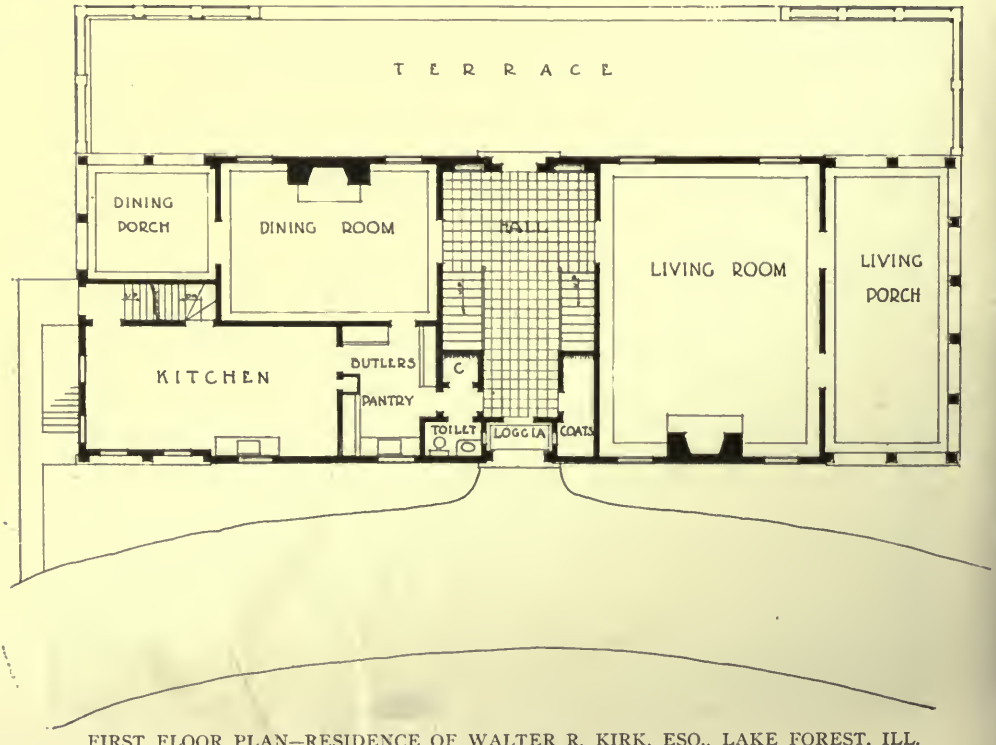

VIEW AND FIRST FLOOR PLAN—RESIDENCE OF JAMES FENTRESS, ESQ., HUBBARD WOODS, ILL. OTIS & CLARK, ARCHITECTS.



TERRACE—RESIDENCE OF WALTER R. KIRK, ESQ., LAKE FOREST, ILL. OTIS & CLARK, ARCHITECTS.



RESIDENCE OF WALTER R. KIRK, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.




FIRST FLOOR PLAN—RESIDENCE OF WALTER R. KIRK, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.



LIVING ROOM—RESIDENCE OF WALTER R. KIRK, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.



DINING ROOM—RESIDENCE OF WALTER R. KIRK, ESQ., LAKE FOREST, ILL.
Otis & Clark, Architects.



RESIDENCE OF JOHN A. JAMESON, ESQ., HUBBARD WOODS, ILL.
OTIS & CLARK, ARCHITECTS.

against the background of the body of the house and make it look well. A great deal of careful and successful study has been devoted to the interior of this house. The entrance hall and the dining room are particularly good examples of the simpler type of French panelled room.

Another of Messrs. Otis and Clark's dwellings which belongs emphatically to an historic type is the home of Walter R. Kirk, at Lake Forest, Ill. This house is, of course, scrupulously and even somewhat consciously Spanish in its appearance. Its Spanish character is unfortunately attenuated by the multiplicity of its windows, which has prevented the architects from obtaining the unbroken stretches of wall surface which added so much to the severe dignity of Spanish domestic architecture. But it is none the less a very interesting example of the application of Spanish forms to the needs of a modern American family. Spanish buildings usually managed to combine picturesqueness with great simplicity in the composition of a building and in the massing of its parts. The Kirk house also is low; simple as the elements of its composition and almost devoid of ornament. Yet it is at the same time picturesque; and its picturesqueness is obtained almost entirely by the projection of the roof. The effect of a deep shadow of this kind is analogous to the effect upon a man's face produced by a broad-brimmed hat. If it is done skillfully, it adds an element of mystery to what is in other respects a wholly unmysterious facade of countenance. Was it accidental that the Spaniard should have used more than any other people both the sombrero with its broad brim and the shapely projecting roof?

The rooms of the Kirk house will make a particularly strong appeal to people who like extreme simplicity of interior design. The living room, for instance, is entirely devoid of ornament except a mantelpiece and cornice. It is merely a spacious room, finished in grey plaster, hung with tapestries and entirely free from incidental and "spotty" furnishings. It would be too severe for the ordinary American taste, which prefers a much busier and fussier kind of decorative finish, but its severity, in spite of a flavor of sub-consciousness, is not in the least ascetic. These bare Spanish rooms are refreshing in their coolness, their economy and in their absence of ornamental trivialities.

Messrs. Otis and Clark have designed many other attractive houses, of which perhaps the most interesting is that of John A. Jameson at Hubbard Woods, Ill. It affords an indication of their versatility, for it is a peculiarly successful example of the half-timbered house, which frequently looks particularly well among the oak woods to the north of Chicago. Mention should also be made of the residence of Mr. William T. Mason at Evanston, Ill., which belongs to a kind entirely different from that of the Jameson or Kirk houses, but which is also extremely good of its kind. The cleverness of architects who can handle so many different styles with so much taste and with such a nice sense of the idiom of each particular style is incontestable. It is to be hoped, however, that soon they will settle down and specialize in a particular type of design. The biggest successes in American architecture have been made by firms whose work was characterized less by versatility than by the mastery of one particular style, which can only be derived by patient and varied experimentation with its possibilities. Messrs. Otis and Clark are sufficiently able to make their friends hope that eventually they will settle down and bestow on their work a more strongly marked character.



THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN.
CRAM & FERGUSON, ARCHITECTS.



# The House of Hope Presbyterian Church



St. Paul, Minn

Cram and Ferguson, Architects

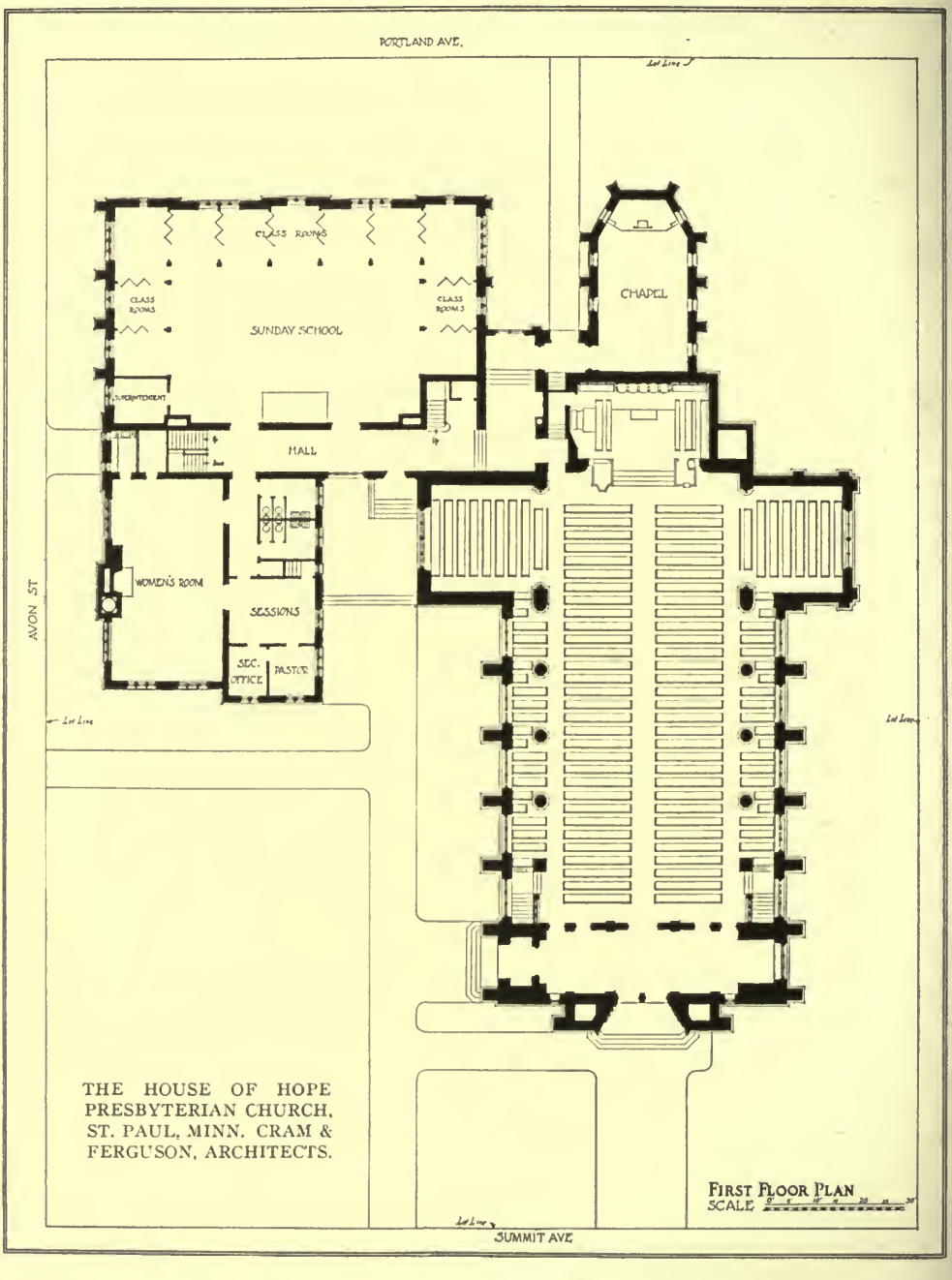
THE House of Hope Church was one of the first churches founded in St. Paul, its traditions extending back to the beginnings of the State of Minnesota, in the last century. The original House of Hope was a Dutch redoubt built in early Colonial times on the tradè route between Hartford and Manhattan as a sort of halfway house for protection against the red savages of Connecticut. The founder of the church knew of this old fort, and when he gathered his small congregation in what was then an Indian-beset wilderness, his church seemed to him like the old refuge house in the East, and he called it the House of Hope. An edifice in the lower town served the congregation until the dedication of the new building in the higher part of the city, on the bluff above the Mississippi.

In consulting their architects the building committee laid down the principle that, while the church was to be as convenient and practically useful as possible, it nevertheless was to be traditional in spirit and dignified and religious in expression. They thought a three-aisled plan preferable on this account; and it may be remarked that, although the aisle is not merely an ambulatory, but contains pews, the number of dark seats is small. There is the usual front vestibule, with a gallery over it entered by stairs from the church. The two transepts have no galleries; the left is formed in the base of the tower, and only the right transept is visible as such from the outside. Back of the church proper is a small chapel for small services, and adjacent, at one side, are the Sunday School building and Parish House.

The "system" adopted in the nave is a sort of compromise between the usual wide one-aisle interior with a hammer-beam roof and the ordinary three-aisle type without a clerestory. The crucial difficulty in a wide span like that of the House of Hope is in getting a proper curve for the arches of the roof trusses without unduly raising the height of the roof or unduly depressing the arch. This is here accomplished by springing the truss arches, not from the top, but from the base of the triforium above the ground story arcade. The added height makes possible a simple type of roof truss without hammer beams. The dark triforium is extremely effective and useful acoustically. True flying buttresses of concrete, under the roof, stiffen the wall on centers of the trusses. The roof of the chancel is a pointed segmental barrel vault, ribbed and panelled. The aisle ceilings are reinforced concrete slabs with stone arches on the lines of the columns.

The stone used throughout is Bedford limestone. All the trim, exterior and interior, is light buff stone, and the exterior ashlar is buff and blue mixed. The exterior walls are very good on account of the variety in color made by the use of the two grades of stone. All the tracery is stone, rebated for double glass on account of extremely cold winter weather. In the exterior of the large Parish House chimney some red brick are used to give color variety to the plain mass. The roofs are of green slate.

In the interior of the church the floors of the vestibule, aisles and chancel are of specially made tile. Except in the chancel, the quarries are largely plain red with semi-glaze tiles in color, used in spots and borders. In the chancel the whole floor is glazed and is very beautiful. The color of the ground tile is dull




THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.

yellow, with blue, gold and iridescent metallic glazes in the figured spots.

The woodwork is of fumed oak with a dull and rather light finish. In the panelling at the back of the chancel are set five large panels of brocade, which give an effective focus to the whole interior. The arrangement of this chancel reverts to older Scotch precedent, and is unlike that in many Presbyterian churches. The pulpit and lectern are at the sides, with the communion table in

the center and clergy stalls behind it. There are lateral benches for the choir and organist; the organ console is in a shallow niche in the wall on the pulpit side. In the desks for the pulpit and lectern are concealed transmitters for a telephone system for deaf parishioners.

The lighting fixtures of the church proper are perhaps the most unusual features of the whole group. The motive was suggested by the name of the church. Man's "House of Hope" is the church, the Light of the World; in the fixtures the general forms were suggested by the images used in Revelation and elsewhere, where the New Jerusalem is seen by St. John in the form of a fortified city, and the companies of the Faithful throughout the world are conceived of as being in a continual state of siege by the world at large. The motives are therefore taken from mediaeval architecture, civil and religious. The lantern at the main entrance of the church, the vestibule fixtures and the wall brackets are in the form of small defensive fortifications, typifying the small bands of faithful people who throughout the world in different ways are sustaining their part in the conflict. The nave fixtures, in the shape of small churches, represent the Visible Church in the world, divided, but united by one mission. The large corona at the crossing is a symbol of the Church Triumphant, the Holy City, the New Jerusalem. It is a temple encircled by a wall which is pierced by twelve gates, typifying the twelve tribes of Israel of the old dispensation and the twelve Apostles of the new. The symbols of the Apostles are placed on the shields hung from the gates and above the temple are the dove and two crowns hanging, symbolizing the Trinity.

As to the actual fixtures, the most important are of course the nave chandeliers and the corona. In the former, which are hung low, it was necessary to avoid the possibility of direct light shining into the eyes of the congregation. The lighting bulbs have been placed above glass, which diffuses the light and prevents concentration below the fixture. The openings in the sides of the fixture are glazed with bits of colored glass which give a most interesting effect of color when the lights are lighted. The corona is hung much higher, with all the lights exposed. The fixtures are hand wrought iron throughout, decorated in gold and color.

All the carving and other ornament in the church was designed to have its proper symbolic relation to Christian and local tradition. The anchor of hope, again referring to the name of the church, and the sword of St. Paul, the quasi-patron saint of the city, are constantly used. In the vestibule are four shields, typifying in the arms of their native cities the four great Protestant reformers, Edinburg for Knox, Geneva for Calvin, Zürich for Zwingli, and Wittenberg for Luther. The corbels under the nave trusses are carved with scenes from the life of St. Paul; the chancel arch is carved with a vine pattern, representing the human family. Among its roots at one side are the Creation of Man, at the other the Birth of Christ, thus representing man begun in Adam and perfected in Christ. The chancel ceiling is painted and gilt, the shields bearing the arms of the United States, Scotland, Connecticut and St. Paul. Besides these are used the star, the crown of thorns, the rose and the triangle.

A considerable amount of permanent stained glass has been already installed. The subjects for all the windows were decided on beforehand, and laid out according to the traditional scheme. On the left side of the nave will be the Old Testament stories, on the right New Testament, in the right transept pre-Reformation, and in the left post-Reformation worthies. The great chancel window is composed of scenes from the Passion, and the window over the main entrance will show the Apocalypse. The chancel window, the right transept windows and the three aisle windows are already in place; if the standard of these is maintained in future gifts, the glass in this church promises to be noteworthy as an example of the best work of American designers.



CHURCH AND PARISH HOUSE, FROM NORTH-EAST—
THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST.
PAUL, MINN. CRAM & FERGUSON, ARCHITECTS



CHURCH AND PARISH HOUSE, FROM SOUTH-WEST—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



EAST SIDE OF NAVE—THE HOUSE OF HOPE
PRESBYTERIAN CHURCH, ST. PAUL, MINN.
CRAM & FERGUSON, ARCHITECTS.



EAST SIDE OF NAVE—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



CHANCEL — THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



NAVE AND CHANCEL—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



VIEW OF NAVE FROM GALLERY—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.




DETAIL OF CHANCEL FURNITURE—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.

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REAR OF NAVE, SHOWING EAST STAIRS TO GALLERY —THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



EAST TRANSEPT, FROM CHANCEL—THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.



ELIZABETH CHAPEL — THE HOUSE OF HOPE PRESBYTERIAN CHURCH, ST. PAUL, MINN. CRAM & FERGUSON, ARCHITECTS.

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# ROMAN ARCHITECTVRE AND ITS CRITICS

By A.D.F.HAMLIN

## PART I-The CRITICS & The INDICTMENT

THE increase in the output of architectural books in English within the last few years has been accompanied by a general broadening of taste, both in the public and in those who write for its instruction. Dogmatic criticism and narrow partisanship in the discussion of styles and periods are less conspicuous than formerly; there is more catholicity of appreciation, and critical judgments are founded upon a better understanding of the fundamentals of architecture and a fuller knowledge of its history. There are, however, certain dogmas of the old-time criticism which have persisted in the face of larger knowledge, which are so erroneous, so contrary to the evidence of the monuments themselves, that they deserve to be examined with great care, in order that the reader may understand both why they are so plausible and persistent, and what are the errors which vitiate them. It is high time that both writers and readers should be put on their guard against perpetuating these errors.

It is worth noting that much of this popular literature on architecture has been the work, not of practising architects, but of studious laymen. Ruskin, whose "Seven Lamps of Architecture" and "Stones of Venice" have been more widely read than any other books on architecture in English, was a painter, a professor of art and a literary man, never an architect either by training or practice. Sir James Fergusson, whose "History of Architecture in All Countries" was for many years the only important work in English on the subject, was an accomplished scholar and traveler, but not a practicing architect except for one short period early in his career, during which he produced no work of any importance. Among present-day writers Mr. Charles Herbert Moore, the author of "Development and Character of Gothic Architecture," "The Character of Renaissance Architecture," and "Mediaeval Church Architecture of England," was for many years Professor of Drawing at Harvard University; an enthusiastic student of medieval architecture and a writer and illustrator of more than ordinary force and ability, but not an architect. The late Montgomery Schuyler, author of "American Architecture"; Mr. Arthur Kingsley Porter, author of two large volumes on "Medieval Architecture," and of a valuable little book on "Vaulting"; and Professor W. H. Goodyear, author of "Greek Refinements" and of many articles in the architectural periodicals, have distinguished themselves in various fields of scholarly investigation connected with architecture, but none of them is an architect. Even the most widely known of American writers on architecture, the late Mr. Russell Sturgis, although trained for the profession and known as the designer of the Marquand Chapel at Yale and of a few other buildings, was always by preference a student and dilletante in his profession rather than an active practitioner.

It would be unreasonable to claim that none but practising architects should attempt to write about architecture, that they alone are qualified to criticize architecture. There is a wide field of literary activity open to non-practising students of architecture, and within certain fairly broad limits the layman may qualify himself, by study and observation, not only to popularize the history and archeology of the arts of building, and the fundamental principles on which they are based, but also to pronounce critical judgments on buildings and styles. One of the best

books on English Cathedrals is the work of a non-professional—an American lady, Mrs. M. G. Van Rensselaer. Nevertheless, in this field the amateur stands on somewhat dangerous ground. Every one, of course, can express his own personal judgment of a building or style. But when he addresses the general public—and all the more if he speak with a certain authority based upon his reputation as a writer or scholar—any mistake he may make in his verdicts is disastrous in its effects precisely in proportion to that reputation. The error is popularized and accepted, and unless controverted by some one who can speak to the same audience with equal authority, it becomes in time a part of the established traditions of popular taste and judgment. This explains the wide currency of the misconceptions and misjudgments to which these papers will seek to call attention.

The reason why even the scholarly amateur or the accomplished dilletante is in constant danger of critical misjudgments, lies in the fact that one entire side of the art he deals with is for him an unexplored country; the side of practical, creative design. A whole array of considerations that enter into the production of even the simplest architectural design, first on paper and then in the material building, can be fully appreciated only by one who has toiled over the drawing-board, dealt with questions of feet and inches, calculated strains, watched the excavation, the piling of the masonry, the details of the finishing, and solved the countless minor problems that arise in the working out and execution of the design. The translation of an abstract architectural conception into the concrete form of the completed building is a part of the architect's work which should form an important factor to be considered in judging the work. No layman can judge a plan with the appreciative fairness of the man who has created many plans, and to whom a plan is not merely a diagram of internal arrangements, but a key to and revelation of the entire structure. The purely theoretic and transcendental criticism of architecture can never do full justice, because it ignores the inner processes of architectural creation, the amount and nature and importance of many elements and forces which the designer of the work under criticism was compelled to consider and deal with. And it is precisely here that even broadminded and scholarly literary critics often fail.

Nor are the architects themselves quite blameless in their critical estimates. They are liable, however, to err in a different direction. Through inadequacy of historical scholarship, they sometimes fail to take broad views, they become partisans of this or that "style" or set of forms, and intolerant of methods of design different from their own,—as when one of them recently wrote to the author of these papers that there were but three legitimate styles of rural house design proper for Americans to employ, the Georgian or Colonial, the Swiss and the English! Valid architectural criticism must be based first of all on broad historical scholarship; it must look through, and around, behind and beneath all the styles and their products, to discover the hidden as well as the obvious factors that shaped them, the point of view of the designers and their method of approach to the problem. It must take account of forms and details as results, not causes, and seek for the reason of their adoption. The critic must consider alike the plan and the construction, the composition and the decoration; note what is fundamental and what is superficial; what is essential and what secondary. He must learn to distinguish between mere personal predilections and sober and matured judgments based on sound reasoning from established premises. It is not fair or valid criticism to judge the style and products of one age, period or people by the principles and standards of another age or period or people. It is of course fair, and indeed instructive, to compare and contrast different styles and periods, but in the critical estimate of each, the critic is bound in fairness to frame his judgment in the light of the conditions, the circumstances, the culture and the needs of its own time and environment. The capacity for sympathetic appreciation of widely differing styles is rare, but it is essential for really valid criticism. For the critic should not



FIG. 1. RUINS OF THE BATHS OF CARACALLA, ROME. VIEW ACROSS THE TEPIDARIUM AND FRIGIDARIUM.

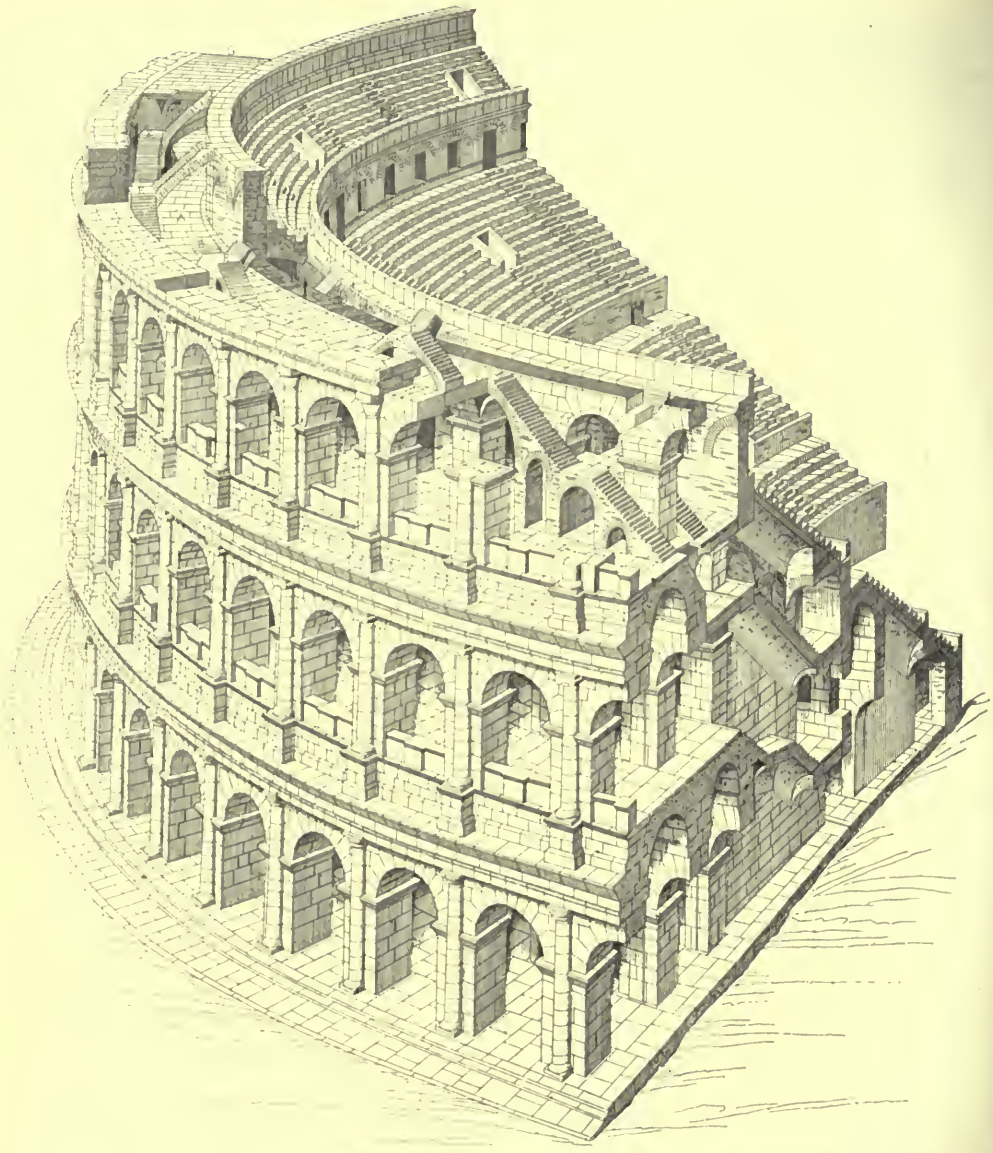


FIG. 2. STRUCTURAL SYSTEM OF THE COLOSSEUM AT ROME, FROM DRAWING BY THE LATE PROF. JULIEN GUADET, PARIS.

be like a special paid advocate of one side against another, presenting that side in the most favorable light and disparaging to the utmost the other; but rather like an upright judge who, with full knowledge of the law, sums up in perfect fairness the *pros* and *cons* of both sides, that the jury—the public—may draw its own conclusions; himself pronouncing a final verdict *pro* or *con* only when the evidence that way is convincing to himself, and such as should carry conviction to fair minds generally.

II.

The treatment accorded the architecture of imperial Rome by the majority of modern writers in English is an interesting illustration of ready-made tradi-

tional criticism. Early in the last century interest in Greek art received a prodigious impulse from the explorations in classic lands which followed the publication of Stuart and Revett's "Antiquities of Athens," the bringing of the Elgin marbles to London and the achievement of independence by the Greeks in 1829. The poetry of Byron was in favor in the fashionable world and the ancient glories of Greece were a prolific theme of conversation and literature. The perfection of Greek architecture and sculpture was universally recognized, and to praise Greek art was accepted as an evidence of culture. The new enthusiasm was largely literary and scholastic in England and Germany, where it chiefly prevailed, and later in America, where every English movement found its echo. Few of those who wrote and declaimed on the supremacy of Greek art had any real and profound knowledge of their subject, at least any first-hand personal acquaintance with its monuments. But Greek was compared with Roman art, always to the disparagement of the latter, and to decry Roman architecture as in every way inferior to the Greek became an accepted mark of superior taste and artistic discrimination. Creative power in design had sunk in England well nigh to its lowest depths, and the revival of architecture was sought in the substitution of Greek for Roman details. So far as this tended towards refinement of detail, the result was beneficial, but English architecture gained nothing in invention; it became largely an art of facing indifferently planned buildings with imposing Greek colonnades. At the same time, another school of reformers was developing the Gothic revival, as a protest against all classic "pagan" forms, and its apostles were declaiming with equal vehemence against Greek temples, Roman Pantheons and all the works of the irreligious Renaissance. At the hands of these various reformers, hardly one of whom was a really capable architect, if an architect at all, the Romans fared very badly. They were pagans—coarse, vulgar conquerors, destitute of taste, mere copyists and imitators of the Greeks, and bad ones at that; and though they produced a few rather fine buildings they were the first corrupters of architecture and the prime authors of all the falsehood, sham, plagiarism, confusion and bad taste that have cursed architecture ever since the decline of Greece, except during those blessed middle ages, in which the Gothic church-builders for a few centuries revived and maintained a true art on sound principles.

This is not a travesty of the nineteenth century attitude towards Roman architecture; it is based on the actual language of reputable writers, from Pugin to our own time. For the critical verdicts of the Hellenic and Gothic enthusiasts of the first half of the nineteenth century have been almost blindly accepted and reiterated by so many of the writers of the last fifty years, as to have entered into the established tradition of architectural criticism. The persistent repetition of disparaging phrases and the utterance of sweeping characterizations in strong and picturesque language, are much easier than patient, impartial investigation leading to independent judgments. Those who appreciate the noble and virile qualities of Roman design are somewhat to blame, no doubt, for this prevalence of hostile and condemnatory criticism, in that they have never seriously undertaken to reply to it. I am not familiar with any systematic study of Roman architecture that has taken notice of this persistent and widespread depreciatory criticism and attempted to meet it.

III.

The chief counts of the indictment drawn up by the hostile critics of Roman architecture may be summarized somewhat as follows:

1. Roman architecture lacks the higher qualities of design—purity, refinement and good taste, and substitutes for these a pompous grandeur and a specious magnificence. It is coarse, vulgar, pretentious.

2. The Romans were plagiarists, not originators; they appropriated, copied, travestied and misapplied the forms of Greek architecture.

3. While displaying great engineering skill in massive constructions, the architecture the Romans evolved was on the

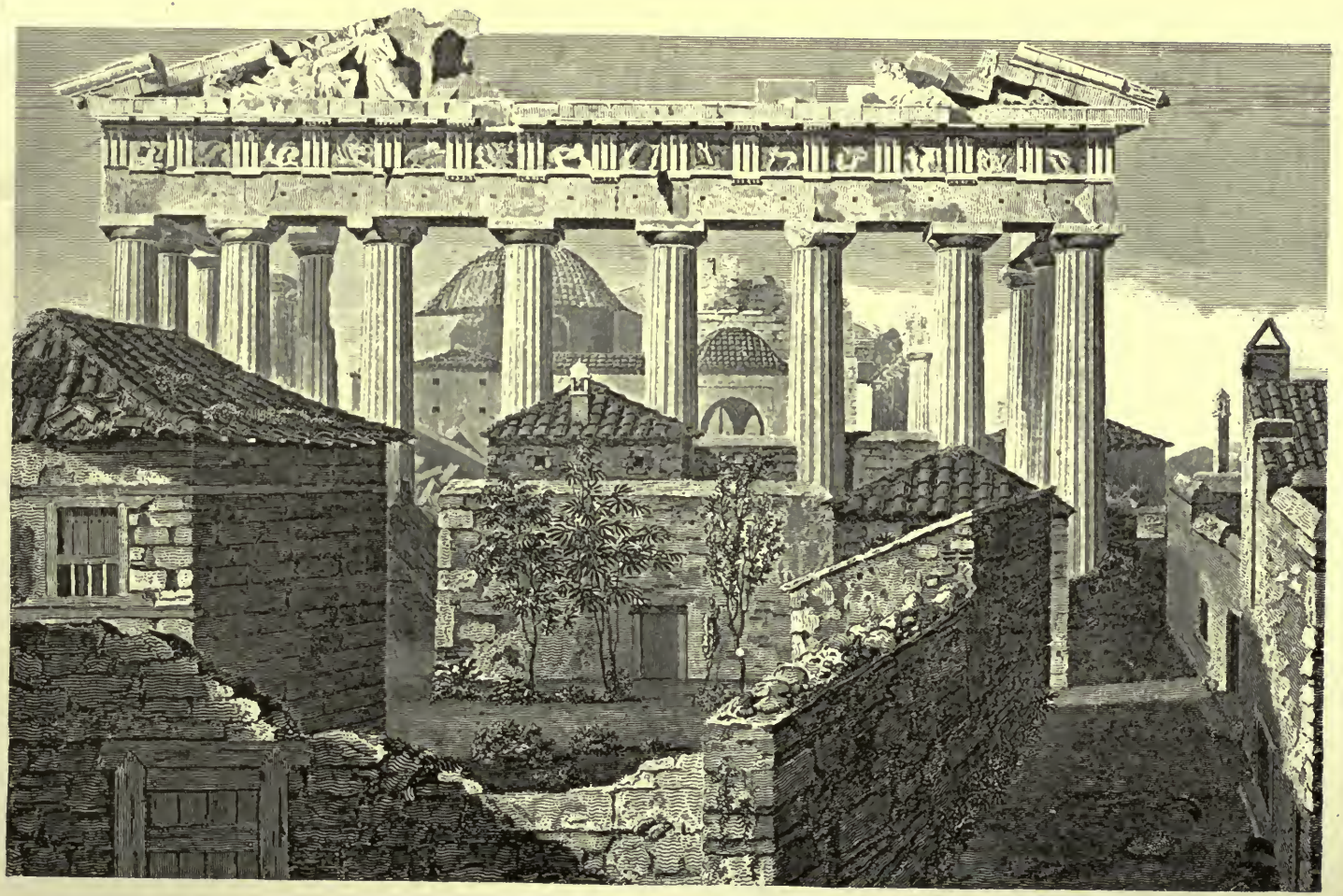


FIG. 3. THE PARTHENON IN 1755. FROM STUART AND REVETT: "ANTIQUITIES OF ATHENS."



FIG. 4. STUCCO RELIEF DECORATION IN TOMB ON VIA LATINA, ROME.

plastic side illogical and inartistic in that it converted borrowed structural forms into a mere decorative apparel. Particularly objectionable was the Roman combination of the arch with engaged columns and entablatures.

4. By the adoption of this vesture of sham columnar forms, the Romans introduced into architecture an element of falsity which has wrought disastrous consequences in the Renaissance and modern times.

5. By nature inartistic, the Romans substituted repetitive or conventional ornament for the sculptural decoration of which they were incapable and thus degraded the art; while by reducing the Greek orders to an arbitrary system of mathematical formulae, they put a mechanical stamp on all their work and sacrificed the last vestige of excuse for using the Greek orders. In consequence of this, Roman architecture is everywhere monotonous and uninspired.

This is a pretty severe indictment! The visitor to classic lands is warned against allowing himself to be betrayed into anything like admiration by the wanton lure of such corrupt and pernicious works as the Pantheon or the Arch of Titus at Rome, the House of the Vettii at Pompeii, or the Maison Carrée at Nimes. He might otherwise allow an unguarded exclamation of delight to escape him on seeing a restoration of the order of the Temple of Castor and Pollux or of Faustina. He might discover exquisite delicacy in the stucco reliefs of the Baths, of the Forum of Pompeii, of certain tombs on the Via Latina, or fragments in the Museo delle Terme at Rome. As an architect he might in a forgetful moment declare that the planning of the great Roman Thermæ, or of the Forum of Trajan, or of the Basilica of Constantine, seemed to him superb in its originality, ingenuity, artistic effectiveness and grasp of the problem. He might even—horrible thought!—express delight and admiration in the contemplation of the Colosseum, or even of the Hexagonal Court at Baalbec. Having been, however, properly instructed by the critics, he would repress his uncultured enthusiasm, and shaking his head at the æsthetic depravity of the Romans, restrain his emotions until he could let them loose before the ruins of the Parthenon or of Melrose Abbey.

IV.

Let us rehearse briefly the charges of the critics under the first count—lack of taste and refinement, coarseness, vulgarity, pretentious magnificence in place of fine and pure design.

Fergusson, in his "History of Architecture" (I, 294), says of the Roman buildings "in every city from the Euphrates to the Tagus": "In all cases they display far more evidence of wealth and power than of taste and refinement. Whenever ornament is attempted their bad taste comes out" (p. 324). The Colosseum "does not possess one detail which is not open to criticism and indeed to positive blame" (p. 326). "The taste displayed in them" (triumphal arches) "is more than questionable" (p. 340).

Burn, in his "Rome and the Campagna," remarks that "in all attempts to create ornamental structures they" (the Romans) "failed to produce anything more than gigantic and grotesque imitations of Greek art.(!) From an artistic point of view, therefore, the study of their buildings is barren." Here we have the verdict of a blind and unreasoning Hellenist, to whom even the Pantheon and the Colosseum are "imitations of Greek art!"

Ruskin considers that the Greek Doric capital was spoiled "by the Romans in endeavors to mend it," and that the Roman modillion (cornice-bracket) was "barbarous and effeminate." In a recent and generally excellent one-volume "History of Architecture," Mr. H. H. Statham pronounces the Ionic cap of the Temple of Fortuna Virilis "with its small feeble volutes a poor cast-iron looking affair." Reber condemns the Roman four-sided Ionic capital (the "Scamozzi Ionic" type) as an inartistic invention which destroyed the character of the capital. But it is A. K. Porter, who, in the first volume of his "Mediæval Architecture," deals the most stalwart blows against the artistic claims of Roman architecture. "Under Rome," he says, "magnificence was substituted for refine-

ment"; "for refinement and delicacy was (*sic*) substituted coarseness and display." It is the "depraved taste" of modern times which has perpetuated the Roman combination of arch and order. The Corinthian order is said to have "crowded out the *less blatant** orders." "Capitals and mouldings seems to be machine made." "The effect of the whole, for all its blatancy, is inexpressibly dreary and monotonous." And again: "When our eyes have been refreshed by the study of the purer forms of Greek or mediæval architecture, the Roman designs at once appear in their true vulgarity." (Chapter I, *passim.*)

These quotations by no means exhaust the allegations of the critics as to the tastelessness and inherent artistic poverty of the defendant, but they suffice to show their general attitude. Regarding the second count—that of plagiarism and misuse of the Greek forms—the critics are quite as severe. "This Greek architecture," says Ruskin, "was clumsily copied and varied by the Romans, with no particular result . . . except only that the Doric capital was spoiled," etc. To Ruskin, indeed, all classic "orders" are contemptible. In the "Stones of Venice" he expresses his belief that "a single inventive soul could create a thousand orders in an hour"—probably the greatest compliment ever paid by a transcendental critic to the creative powers of the soul! With modern mechanical ingenuity and the rules of Vitruvius, Ruskin was quite confident that a machine could be made "to furnish pillars and friezes to the size ordered, of any of the five orders, on the most perfect Greek models in any quantity," which any bricklayer could set up at their proper distances, "so that we may dispense with our architects altogether." (Vol. 3, ii, XC.) The Ionic he calls a "ram's order," which could easily be made an "ibex order" or an "ass's order." The Roman Tuscan and Doric orders are "among the most stupid variations ever invented upon forms already known" (ibid, i, App. 7). Mr. Porter, in the chapter already quoted from, declares that "Roman art lacks originality, and is in fact, little more than an adaptation of Greek models to suit the pomposity and vulgarity of Roman taste." And Mr. Sturgis, commenting on the great Temple of Venus and Rome, considers that "the Romans have little claim to originality as builders or as makers of plans; what they knew best was how to appropriate the ideas, as they appropriated the wealth, of the Mediterranean world." "The pure ornament of the Romans was as nearly a reproduction of the Greek as they could make it," says Porter. And, lest one should unduly magnify the importance and originality of the Roman invention of the modillion-cornice, he explains it by the airy remark that "it occurred to some genius to clap both dentils and modillions upon the same entablature." "The forms of debased late Greek art the Romans fixed into a cut-and-dried canon from which minor variations were possible, but no real progress": this is Mr. Porter's final verdict on Roman originality.

The third and fourth counts are supported in part by the passages quoted above, and by many others. They allege, in brief, the illogical application to Roman arcaded and vaulted construction in brick and concrete, of the forms filched from Greek architecture and converted or diverted from their original structural function to that of mere decoration—a false and pretentious veneer of misused detail. Particularly to be condemned is the marriage of the arch with the columnar system. This detestable alliance, parent of specious villainies through the last five centuries, thanks to the "depraved modern taste," receives the special castigation of the critics. Of these, Fergusson is by far the most moderate, finding that the two systems, the columnar and the arcuated, "although not without a certain richness of effect" are "too distinctly dissimilar to be pleasing." Mr. Sturgis characterizes the columnar apparel of the Colosseum and like structures as "this outer decoration, the sham columns, the make-believe entablatures, the whole imitative structure built up with the real mass behind" (Hist. of Arch., i, 304). In his earlier work "European Architecture," he calls it "this decoration by means of real arches

*The italics are ours.




FIG. 5. ARCADED ORDERS OF THE THEATRE OF MARCELLUS, ROME. FROM A FRENCH DRAWING (GUILLAUME).




FIG. 6. ARCH OF TITUS, ROME.

and imposts flanked and framed by a make-believe post-and-lintel architecture." He admits its popularity and even ascribes to it elements of beauty, serenity and stateliness, but thinks it appeals most to people "not very sensitive to the delicacies of fine art" (pp. 95, 96). Of the arches of triumph, Reber says that in them we have "a mass of masonry enclosed in columns and entablatures which were merely ornamental features without structural significance." Mr. Statham describes the Roman design of arch and order as a "planting" of half-columns "all around the exterior, appearing to carry entablatures which were really carried by the arches between the order" (*sic*); and calls these orders "only a kind of scenery planted onto a building with which they had no real structural relation" (History of Architecture, pp. 144, 145). Further on he says that this mistake "has left a long legacy of falsehood to architecture: a falsehood revived at the Renaissance and still frequently perpetrated in obedience to the tyranny of custom." Mr. Porter is, of course, very severe in his animadversions on the Roman orders in general. Reproducing a beautiful drawing of the Doric order of the Basilica Julia, he considers it a "sufficient commentary on the decline of Roman art." The use of the pedestal in Roman architecture he calls "a gratuitous addition," which the tone of the context indicates is intended as a condemnation. While the Greek columns consistently combined ornamental and constructive functions, "the Romans made them almost wholly decorative." *After their buildings were built,* he declares, "the Romans applied the columns as a surface decoration, either in the form of freestanding porticoes or peristyles, or more frequently as an engaged order built into the wall." This was certainly a singular method of procedure, of which the authorities have hitherto been strangely ignorant!

The fifth count deals with the charge of stereotyped rules of design. Many of the quotations already made bear upon this point. Mr. Statham thinks that the Romans looked upon the employment of the orders as constituting in itself the art of architecture, so that the latter became little more than the planting of the orders on all sorts of buildings. This is a surprising judgment to be uttered by an architect so well-informed in general as Mr. Statham. Mr. Porter pronounces Roman capitals and mouldings to be "machine-made," and declares that "the effect of the whole, for all its blatancy, is inexpressibly dreary and monotonous." "From the Persian Gulf to the Firth of Forth, from the Baths of Caracalla to Constantine, Roman art shows a lack of variation absolutely without a parallel in history" (Med. Arch., i, 32). Mr. Sturgis, in the comments on the Temple of Venus and Rome already referred to (*ante*, p. 433), says that "all this, except the building in mortar-masonry and the idea of a vault, *might have occurred to a Greek*" (the italics are ours), and that "the Romans have little claim to originality" even "as builders and makers of plans." Reber, more generous, notes that their borrowings of foreign features were confined to the external apparel, while he credits the Romans with supplying the general disposition and constructive forms of their buildings.

This mass of hostile criticism has been culled from a few books only, but they are all books which have been put forth with certain claims to authoritative teaching, and their judgments are typical of a much larger mass of similar verdicts to be found in textbooks on architecture, books of travel and magazine articles by English and American writers. The volume of this testimony and the unity of spirit that pervades it are impressive, and either convincing or suspicious according to the way we seek to account for them. The testimony certainly seems convincing to the average reader who has no means of testing its validity. It puts Roman architecture on the defensive; and those who, in the face of this indictment are brave enough to admire the defendant, must stand up and show cause why the verdict of condemnation should not be pronounced on all the counts. The case for the prosecution is apt to look very serious until the testimony and arguments for the defense are presented.

# COLOR IN ARCHITECTVRE AT THE PANAMA-PACIFIC EXPOSITION

BY WM. L. WOOLLETT

EXPOSITION architecture would not ordinarily be considered, on account of its evanescent character, a proper subject or example for elucidating principles of architecture. Exposition architecture, as we commonly know it, in the ultimate, must appear to be unreal. It is palpably a colossal Dream City, and must be appraised in terms peculiar to itself. And yet in the realization of such a "dream" the æsthetic point of view should be somewhat similar to that obtaining in architecture under normal conditions. The architectural scheme, even of an exposition, requires conformity to recognized standards within certain limits; i.e., the peg of reason on which we hang the emotional appeal, the form and structure or implied structure of an exposition building, bears a similar relation to the color scheme as in ordinary conditions. In the instance of the Panama-Pacific International Exposition, at San Francisco, the element of color is so pronounced a feature, and the use of color has been hailed with so much of popular acclaim, that there appears to be here a special opportunity to learn something of the meaning of "Color in Architecture."

In the panorama of this exposition we may in our imagination see in sumptuous array of color, vast bundles of oriental stuffs, vistas of palaces and temples and arcaded halls, and the gardens of Babylon and visions of Atalanta come true near the cobalt waters of the Pacific. We may sprinkle this oriental melee of color with the gems of the Indus, whilst the galleys of victorious fleets laden with captured splendors vie with each other for landing space at the steps of the Great Water Gate. Or we may in cold analysis ask of our reason, why this? or why that? and in the process lose perhaps some of the wild joy of abandonment.

Viewed as a serious attempt to do something beautiful, this work, in order to lay claim to excellence, must qualify not only in its color appeal but in form and abstract values as well.

The essence of a work of art, according to common consent, resides in an expression of personality. Without the individual spark there is no such thing as art. Two men cannot paint a portrait, write a poem or a symphony, or produce a piece of architecture. Accordingly Jules Guerin, greatest of our architectural colorists, was intrusted with the commission of advising the Board of Architects of the Panama-Pacific International Exposition, in order that the whole scheme might be the harmonious expression of one personality in color.

In a critical view of a work of this sort it is desirable to bear in mind that it is easier to criticise than to create—and easier to improve than to improvise. However, the work of these builders of the exposition, who have been pioneers in many respects, seems to emphasize that such a work is more easily created in parts by a group of artists than it can be satisfactorily made as a whole to a single critic. And it remains to be proven that this assemblage of beautiful bits of architecture, bound together in a harmony of color, is necessarily a work of art.

The general color of the exposition is exotic, Eastern. A great emotional poem in color reverberates and pulses for our delectation under the lazy blue of the sky and beside the rippling blue of the waters. From masses of warm walls of Travertine and the warmer tones in the roof areas, opalescent, greenish domes lift their curves of scintillant light into the heaven of California days. Jeweled towers vie with the stars and the sheen of the ocean, and at the first sight of the

spectacle the heart and mind are tingled into expectancy. Clothed in a vast mantel of soft grey colors, refulgent with unseen lights, blooms a vista of color gardens. Like a spirited horse tethered, the mind strains to be off on the wings of exploration of this panoply of light. Here the radiance of a cashmere shawl greets the eye, there the soft tone of the Ottoman's saddle bag, then the dominant note of some old Sienna rug, or the gleam of a Saracen blade. A thousand minor notes of the dominant color scores greet the eye. A vast pulsing mosaic of color, a palette of unrivaled beauty, stirs and for a moment enslaves the imagination. And then, after the first flush of expectancy, of exultant emotion tricked into an overwhelming impulse through the magic of color, comes analysis.

To the searcher for abstract beauty, to him who comes with the mind of the Occident as well as with the soul of the Orient, the Exposition City has told its best in the first "mad moment" of beauty. Here the story ends. A tragedy apparently; but no, I say "ends" with a purpose, for in thus speaking broadly we free ourselves to pass to detailed analysis of a very interesting architectural situation, having in unqualified terms given honor where honor is unquestionably due.

In a work of this magnitude there are, of course, two points of view: One, the consideration of ensemble, of mass, and the like, and the other, consideration of details.

In matters of detail the use of colored pigments is probably the most noteworthy phase of the architectural scheme. Everything which the eye rests upon, whether of wood, iron or plaster, has been painted. The dominant note is the walls of imitation Travertine stone, which is in reality colored plaster with a special texture.

In the handling of architectural detail, in the doorways, sculptured groups, and other details which are best examined near at hand, there are gems of architectural beauty and harmonious color. The portals of Faville, for instance, foiled by the studied calm of cliff-like walls, are rich beyond comparison, mellow to the point of antique delight and juicy with time-worn color, a dream for the artist's fancy. However, taken in conjunction with the masses of the buildings of which they form a part, and viewed from a point where the ensemble is possible, these spots of transcendent interest are reduced to smudges of color. Because the architecture was composed aside from the colorist's conception, these gems of ornament have lost, to a degree at least, their capacity to convey the true subtlety of the artist's thought. The application of pigment has softened and detracted from the values. Frequently there remains little of thought directing quality. However, there is as a residue a delightful texture, a rug like quality, if you please, due to the juxtaposition of a variety of nicely balanced color values. But the structure, the static quality, the thought directing element, all these have been depleted or have disappeared in a subdued pastel sketch effect. Viewed as specimens of detailed decoration near at hand they are poems of ornament.

A consequence of this loss of thought-directing detail is an absence of scale. You feel that you are looking at one of Jules Guerin's prints; whether a real live water color drawing or a reprint—one ponders.

The Tower of Jewels is a most interesting example of this submerging of the architectural interest in color dominance. Here a superb pile of richly formed, elegantly proportioned masses has been denuded of its original vitality. The various and strongly colored parts have become detached, the sense of unity is gone, and as a result the composition is without appeal as to its colossal size. In the Tower of Jewels the details, such as the eagles, equestrian statues, etc., have been reduced by an all-over coat of color to mere lumps whose form and character lines are so unannounced that there is nothing by which the mind can gauge the quality or estimate the relation to the whole. One intuitively feels that the designer had his matter well in hand, that he knew where his chief darks should come. There is an intrinsic fine balance and lilt and lift

to the composition as a whole, due to the nice distribution of values. The applied pigment has readjusted and misplaced the original color values so that the real "kick," as determined in the designing architect's mind, is gone. The color "kick" has resulted in making this feature heavy as a mass, whereas its place in the composition demanded lightness, effervescence, billowing, fluffy, cloudlike, puffy exuberance, a gathering together into one giant "parfait" of all the lightness and daintiness of the McKim court. In the soffit of the big coffered arch the coloring of the panels has flattened the effect and turned the magnificent Travertine stone into paper. The red-colored coffered ceiling gives a chalklike effect to the stunning murals which flame with wonderful color when seen without the accompaniment of "architectural" paint. The sense of reality, of permanence and stability, is preserved in the lower part of the tower. The treatment of the main cornice of this portion is a dream of color and in no way detracts from the stone effect evidently desired.

The Court of the Sun, Moon and Stars, by McKim, Mead and White, a composition of which the Tower of Jewels forms the crowning member, is the architectural *piece de resistance* of the exposition. This magnificent architectural spectacle, composed with delicate fancy and rich accompaniment of conventional ornament and bas relief, has been but slightly jarred from its original supine calm. The deterrent color notes and groups of too assertive statuary can hardly be said to mar the effect as a whole. The stirring groups of statuary which surmount the main architectural features, and which are supposed to announce themselves as the concentrated essence of the thought as proclaimed in the court as a whole, have been colored a light brown. This simply has the effect of relieving the pedestal of their weight. One wonders, how far back? It is quite theatrical, this shifting of "scenes," of planes.

The floor of the court is "furnished" with statues and fountains, whose bulbous forms by their proboscis-like effrontery push to insignificance the gentle grace of the inclosing colonnades. These sweeping colonnades, like a picket fence, inclose great colossal, recumbent figures which oppose their giant limbs athwart each vista of the eye, and shrivel to an inglorious dissonance that which would otherwise be an architectural symphony. The interest originally attaching to the elegantly modeled frieze has, through the use of a delightful color magic, shifted to the cornices and openings. The color detail one must pronounce as being at once elegant, naive, and satisfying. The pristine glories of classic lines and classic figures which, in fine repose, are set to enrich and enliven the friezes, are dulled by comparison with the yellow statues, nearby, which, like giant incrustations, flatten themselves against the walls. Painted pilasters skip up and down the dignity of Travertine stone piers.

The glorious sculptured group by Isidore Konti about the pedestal of the great column on the axis of the court is stolen from the view by a "smashing" bit of colored kiosk-like band stand, which, like an apple woman in Broadway, unprofitably obstructs the traffic of the eye.

No greater Roman holiday was ever made than this. Shades of Stanford White stalk nightly in this wonder place, where the gemmed star maidens look down on dusky sisters clothed in Oriental sepia. The dead spleen of Vitruvius should gather grit to see so lordly a scheme go through the color pots. Yellow domes atop these classic piles proclaim against the cerulean blue in unmistakable pæan, "Who did this thing?" Undoubtedly a paint pot flew into the sky.

And yet the color glories of the whole proclaim a pace so spent for beauty that one halts to ponder. "If this could have been done at its best, it would have outdone itself and placed a ban on future accomplishment."

In pleasing contrast to the evident loss of scale and force in the supposedly crowning feature of the architectural composition is Mullgardt's superb court —the Court of Creation. This work was originally intended for a riot of color. The application of pigment has been

eliminated. The result is that the work of the artist is left in its unrivaled beauty. This court is a true dream in exposition architecture. The detail counts for all that it may; the architect's thoughts as expressed in mass, line, detail, announce themselves in unmistakable terms, unfoiled by deterrent color.

In any architectural composition there must be some reposeful element, some undetermined zone of emotion from which the thought-directing element must spring or be evolved. The unbroken wall surfaces, whose texture and substance are left to the imagination, carry in forceful, purposeful manner their just weight in the composition.

In the court of Mullgardt the pure undivided over-grey of walls and ornament alike holds in solution the dominant thought. A delicate tracery of detail, which by its disposition and its charm of form leads the imagination on, is pregnant with the abstract thought in the artist's mind. This court, of all the work in the exposition, expresses most definitely perhaps the untrammeled vital spark of originality. In the modeling of the architectural ornament one intuitively feels the influence of the architect's master hand. The sculpture, however, particularly the main tower groups, lacks contact with the architecture. This sculpture is less colorful, less dynamic than the adjacent architectural ornament. It also lacks subtlety, fineness and refinement, and fails decidedly to express the same suppressed electric grotesque quality which is announced with such good effect in some of the less important groups. The sculpture, though plainly less vocal than the architecture, is decidedly interesting, well composed and powerful. It might well be deemed a crime to mention this lack of correspondence, for there is evident sincerity of effort and a much greater correspondence than we find in many works of greater prominence. The lack of a certain kindred spirit, which only a Mullgardt sculptor could evolve, is hardly a reasonable lament.

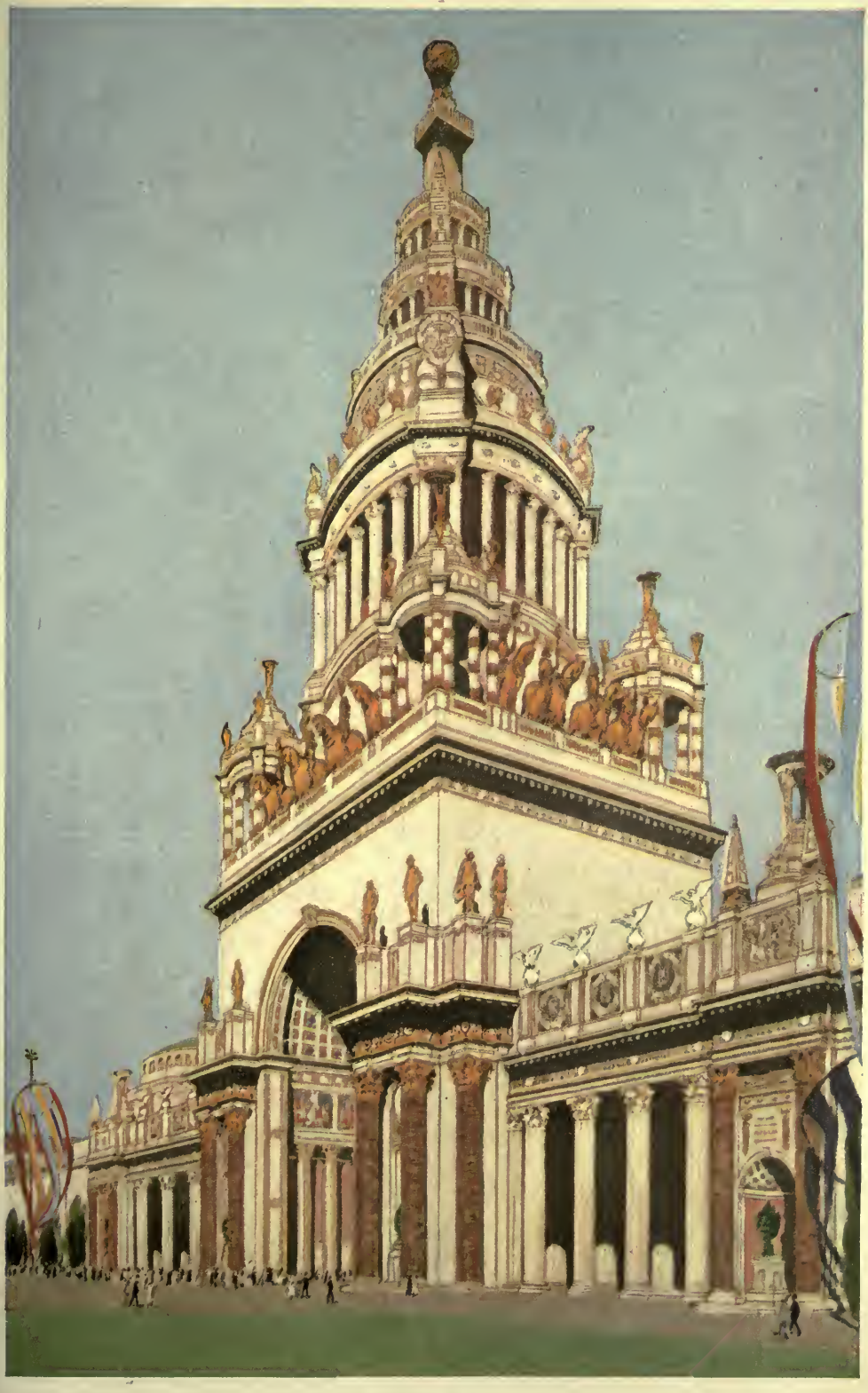
The central fountain by Aiken in this court is well worth while, considered by itself, being rich in imagery and beautifully composed, but too large in scale and in mass for its place in the composition. Its effect is to dwarf the court as a whole. Only when this note is out of the line of vision does the full beauty of the place appear.

The wall decorations by Brangwyn at the ends of the corridors are masterpieces of wall decoration, fit counterpart of this gloriously vivid individual work. The color of these glows like burning coals. They serve to vivify the idea that from subterranean fires where colors leap and play; from the earth and air and sky and sea where eternal forces are locked in titanic struggle to be free, the Court of the Universe comes forth to greet the eye in a festoon of tempered, controlled, vitriolic lava, formed and fashioned into a bit of architecture lurid with a soul's delight in creation.

The superb handling of the murals in Mullgardt's court suggests a word in general as to the relation of murals to this matter of "Color in Architecture." A mural painting should be what the term implies—"on the wall." As in the work of Puvis de Chavannes, one should feel more of wall than of color, more of structure behind than of forms represented. In the color scheme of the whole a mural may or may not count as a dominant note, but at all times should be subservient to the wall feeling and in harmony with the general color scheme. In Brangwyn's painting one could consciously feel a desire to know the jointing of the stone work in the wall, in spite of the rich tonal effects, so flat, so secondary is the plane or perspective element.

The mural decorations of the exposition are in the main alive and graceful, teeming with rich imagery and full of clear color. But in the color scheme they count merely as jewels, resplendent with color, like ripening fruit; they are not (with exceptions of course) murals, on walls; they are merely bits of bright color, little elfinlike butterfly bits of color in a pageantry of blatant color which asserts itself in blobs and chunks. For in this color composition huge areas, heavy with color and in values which dominate, stride like giants beside the sea and throw themselves into the air. Dank with the

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THE TOWER OF JEWELS, PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.

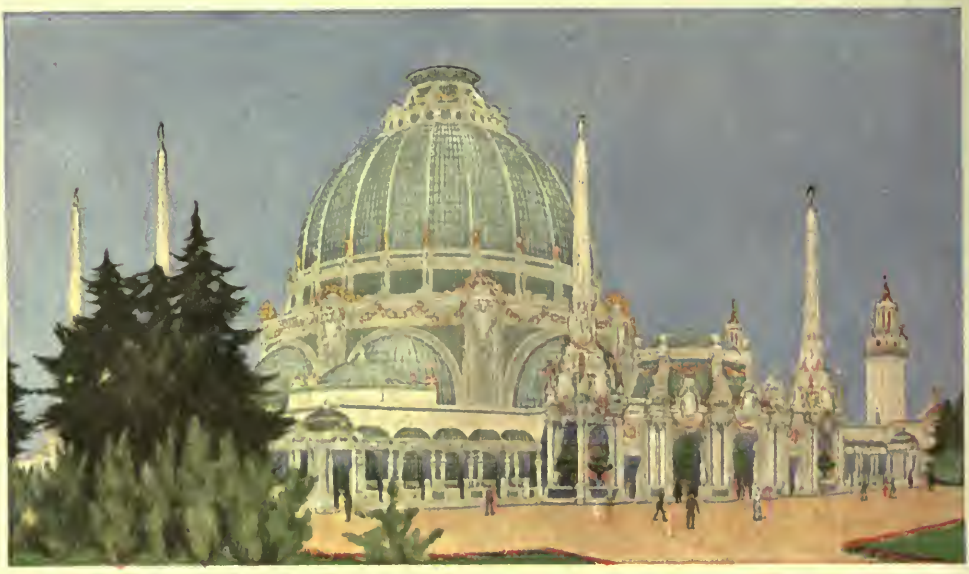


"DANCING THE GRAPES"—PANEL BY FRANK BRANGWYN,
PANAMA-PACIFIC EXPOSITION.

490 B.



"THE FRUIT PICKERS"—PANEL BY FRANK BRANGWYN,
PANAMA-PACIFIC EXPOSITION.



THE PALACE OF HORTICULTURE, PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.



NICHE IN COURT OF FOUR SEASONS, PANAMA-PACIFIC EXPOSITION, SAN FRANCISCO.

stress of the painter's palate and mellow with the age that obliterates even a semblance of the thought behind the forms, this blazing beauty of color is rampant, a carnival of the "Painted Desert," a morass of voluptuous symphonies of color, the expression of a mind drunk with color. What a powerful pile this would be were there an architecture to hold it, bind it together, hammer it down, "put it over."

However we may be impressed with the effect of color in architecture, it still remains that architecture is fundamentally a structural vehicle. The color element as an emotional impulse must be subservient to the thought directing element as expressed in the architectural form. Where the color element is powerful, the form element must be still more powerful, else we have, as in the characteristic work of the futurist, dominant emotional impressions, unknowable efflorescence in color.

Taken as a whole the exposition must be deemed an expression in color, without adequate architectural accompaniment. The details of beauty which crowd upon the eye at each step do not affect the general value of this statement.

As an instance of a happy detail we note the Horticultural Building. This work of Bakewell and Brown's is a *tour de force* in exposition architecture. It is without exception the most electric, the most expressive, effervescent playful bit of joyous architecture. In the main it expresses, in its color, a most wonderful and delightful restrained exuberance, and the atmospheric quality is charming; but the color imposed has in places converted the detail to a lavalike deposit of unmeaning forms. The choice detail—the fanciful lines, the luxurious efflorescence, particularly of the lower portions—is swallowed up in the pastel vapors of a too dominant color fancy. In this building the dominant note is the great glass areas, which reflect in opalescent bluish tones the prevailing moods of the day and night. The architectural forms are handled with a suggestion of the jeweler's art. The construction and the setting of the various parts in adequate structural relation are graceful and free. Here the structural aesthetic values of architecture are rightly subservient to purely decorative features, the structure being implied. Yet so cleverly is the whole conceived in the spirit of glass and iron and ornamental paste that the mind is satisfied, while the emotional appeal is more than satisfactory—it is a joy. Viewed from the portals of Bacon's court, this building is a jewel of jewels, the quintessence of voluptuous, sumptuous, contained joy.

The primary relations of structural aesthetics, even in exposition architecture, are dominant factors. A more or less close following of reasonable structural values is necessary. As an illustration of misapplication of values, we note the great even-toned greenish domes, which are a dominant minor chord in the scheme. These domes top perforated drums whose wall surfaces are treated with color in a broken design. Here we have a case of syncopation in values. The even color of the dome suggests a monolithic construction; the drums, broken up by bands of scintillant mosaic color areas, suggest a wall of a purely decorative character. To have preserved the effect of solidity of the wall and broken the roof, would have been a way of handling the situation more in accord with the common understanding of the likely structural condition. Or if the solid character of the dome was an important note to be preserved, why support it on a member which by its treatment suggests a more transient type of construction? Under the present arrangement we see the strong shadows of the perforations entirely surrounded with opalescent color conditions, resulting thus in an unexplained structure. The effect is of spots of dark hanging unsupported in the air; the color values of walls and dome being commensurate with the sky values.

Turning to more prosaic details, one's eye lifts to wide expanses of livid ornament, suspended like giant tapestries before the walls of towers which flank the Court of Flowers. Here we confess ourselves ignorant of the meaning, and our powers grow faint before the wizardry, the "wine of wizardry," of the painter's

palette. Here it is difficult to arrive at the point of view of the colorist. A few questions will elucidate. Why, for instance, has color been applied on stone, on exterior wall surfaces, particularly in a diaper pattern, in a way that suggests oilcloth or a brick texture? Great expense and care and skill have been exercised in imitating a stone texture; and are these not stone forms which are employed in adjacent ornament? Why have these suggested surfaces of stone been destroyed as such by the coloring of supposedly stone details? Why has the illusion of stone, of permanency, of stability, been frustrated? Is it more important that a composition be colored than that it be true to itself?

A natural sequence of thought in architectural composition demands that the voids find expression in terms corresponding to the wall structure. When this is not done a manifest confusion in the abstract idea results. Why are the ornamental openings colored so that they suggest beautiful masses of terra cotta or brick or plaster, and the wall areas next treated to suggest Travertine stone?

The value of a wall surface, either expressed in flat unbroken areas or in its extreme phase of fenestration, a colonnade, must ultimately reside in static qualities, its capacity to carry. Why paint a stone wall pink? Are there any pink, real pink, face-powder pink, stone walls anywhere? And, if there are, do we need them here?

Whatever of decoration in color is used on a wall, the quality of stability and permanence should manifestly not be abased. And the detail in color should synchronize in character with the supposed wall material. A stenciled decoration on a plaster wall which has the texture and color of stone, and is supposed to look like stone, should be stenciled, if at all, to recall some sort of stone decoration, and not in imitation of the texture of a brick wall or of a plastered surface.

A wall is primarily the reposeful element in an architectural composition. When a decorative effect is desired in a wall, the wall surfaces should still indicate more of repose than the local decoration of the voids. A highly decorated wall surface having a high key of color value must fail in its structural value as a wall, i. e., a carrying member, unless it is subservient to still more colorful active interest producing elements at the openings. The openings should be accented with ornament, powerful, impelling, thought-directing, of sufficient force to dominate the color condition in the wall.

Because the architecture of the exposition has been designed by men for the most part necessarily without the superlative color sense of a Guerin, the architectural forms express less of activity and power than the color phase. In general, the main architectural lines of the buildings and the minor forms and the details have, through the juxtaposition of the color of applied pigments, dwindled, shrunken and become enfeebled by the contrasts thus imposed upon them. The abstract message of the architecture is submerged in the emotional power of the color values with which they are surfeited.

This brings us to the idea of the true relation of color to architecture. Color in architecture is not the end; it is the beginning of an architectural composition. Color is the reservoir, the ocean, the garden, from which must spring the bud and flower of the architect's thought; just as in literature the thought is more important than the verbiage with which the thought is clothed; as in music the theme is more important than the rendering of the tone values; and as in sculpture the abstract quality is more important than the vehicle.

Color in architecture signifies not so much the covering of architectural forms with pigment, or the use of highly colored materials, as it means that fine adjustment of shade and shadow which suggests color. To him who is sensitive to color a work of architecture is an arrangement of color values under any circumstances.

Comparative views of the buildings taken when they were in the Travertine stone and afterward, when ornamented with color, are, of course, only suggestions of the true condition. However, they serve to show that the application of

pigments which darken the general effect tend to destroy the direction and force of architectural detail. It would, therefore, appear that the colorist should be the architect, or *vice versa,* in order that the color values should be nicely adjusted to the architectural forms.

Paul Bartlett, the sculptor, once said in one of his classes, "A great artist could make a thing of beauty of an elephant, even though he had never seen an elephant and knew nothing of its anatomy," illustrating that the poise and swing of line, the balance and power of composition, were æsthetic powers within the scope of the sculptor and superior as elements of expression to mere details of fact in anatomy. And undoubtedly a master in color, such as this magnificent spectacle proves Guerin to be, may have the power to compose a wonderful composition in color, using as his canvas the buildings and entourage of an international exposition, without a specific knowledge of architecture. But are we not entitled to expect more than a color composition, just as in an equestrian statue we expect the saddle girts to be in place, no matter what the charm of rendering otherwise? In short, we should expect to find not only color in all its glories, but an unrivaled display of fine æsthetic values of line and form as well. And we are justified in looking for a harmony of these various elements, which, combined, constitute the art of architecture. That we do not find this balance is explained only by the fact that no one personality was available who combined all the qualities of an architect.

In the results before our eyes not a single titanic form announces itself, not a line in electric, elastic vehemence cleaves the sky without deterrent color accompaniment. No profile as such feels its way into the mind as a line of beauty, no group of statuary pulls itself into volcanic activity to acclaim its sculptured message—all is under the exotic pall of color. The charmed curves of Corinthian capital and the stately fluted columns stand rank on rank, flattened like colored paper strips set against other colored paper backgrounds.

There are exceptions to this general sacrifice of architecture on the altar of color. In the Court of Seasons whilst looking out toward the sea between Bacon's titan columns, which in solemn grandeur proclaim the dignity and beneficence of nature's bounty, one notes the lilt and lift of the graceful statue of Miss Longman in splendid joyous abandon—a bit of beautiful line in silhouette against the sky. The contrast of this statue with the vistas of advancing ranks of the columns on either side is altogether fine. Here is a picture of classic repose, undefiled by more gorgeous counterpart than that given by earth and sky and sea. This Court of the Seasons, its pavements unbroken save by the level waters of a green bordered pool, stands alone as being free from unsympathetic treatments of its garden areas. Except for the great central apsidal feature on the main axis, which protrudes a foreign note where Faville's door and apse form the enclosing feature of the great central arch, the court stands complete as its architect conceived it. Here the Travertine stone dominates the color scheme. Occasionally where color has been applied, as on the ornamental wreaths, giving an effect of stencil or intaglio, the values of the architect have been frustrated. The sculptured groups of this court are in harmony with the solid dignity of the architectural forms. Many will feel that this court is more nearly a complete expression of mature classical thought and feeling than anything in the exposition. Certainly it has repose and dignity, and great charm—beautiful proportions and the absence of unfriendly color dominance.

One other line of pure delight there is which, like the statue in Bacon's Court, must live in the memory. It is the entasis of the columns in the colonnaded porches of the Pennsylvania building. We met this line just after passing through the fiery furnace of color which encompasses the Art Palace. We had just said "good bye" to the lovely Greek ladies, who turn classic backs upon our upturned faces, and to the cool, refreshing, satisfying walls of the California Building, when looking past the elegant refinement and opulence of New York,

we met some old friends—Independence Hall, the New Jersey Building, and the State House of Boston, and others. Greetings, ye gentle reminders of the Colonial age! The fine grace of these simple lines, these forms unafraid to dare the blue of Western skies in the garb of ancient renown, greets our eyes now surfeited with color. Like a sweet message of ancestral days these delightfully frank architectural fragments bring a realization of our real self. These declare our time and temperament; these, our race and religion, our birthright, and perhaps our future. The exotic fulminate of riotous Roman architecture and "Cairo" coloring possess us no more. We pass as in a dream into the calm realization of the old gold dome of the Boston State House, and we ask the question, Is it the ideals of Patrick Henry and of Hamilton and of the Adams family and of Franklin, or is it the lure of the Occident, the voluptuary, the sensualist, the ocultist, and the seers and precepts of the East—the "line" or the "color"—which holds us truest to our ideals? Go and sit beside the fires of Brangwyn's pictures amid the calm of Creation's Court, and think a while, then out by the sea, alone beside these landmarks of your ancient home. The tides that wash on Pacific shores wet now the feet of the Pilgrims' sons. Are the eyes of these sons lifted to the prismatic colors of the Orient or are they stayed by the subtle beauties of restraint? Or do we look for a future day when into the old shall have been breathed the breath of the new, when these Eastern fires shall have been tempered, when these exotic flashings of emotional energy shall have been curbed by the steeled minds of the West, and chilled into finely wrought expressions of a superman.

Return again to the Court of Creation and there you will see more nearly than elsewhere in this forest of pageantry a realization of a dream come true—Brangwyn's pictures and Mullgardt's court. Here, a true blending of Eastern spirit with Western restraint, of Southern color with Northern lights, a medley vocal with the churning together of rival races, of strident woes, a light from the burning torch of progress.

For this alone the entire effort of the exposition is worth while, for this work signals a spiritual growth, an aspirational force, a capacity for expression in the abstract.

Of the work of Jules Guerin it may truly be said that, whilst his work has been Goliath-like in that he has brought the temples of beauty down about our heads, he has nevertheless given the world the greatest demonstration of the uses of color in exposition architecture with which our time has been favored. All the compliment which word could convey for the boldness and sincerity and harmony of his work is due.

The structural æsthetics of color, still veiled and sphinx-like, awaits the advent of architects who are colorists. Stanford White thought in color, by the way, and his work is the proof.

However immaterial and irrelevant criticism of a work so generally lovely may appear, we are bound to recognize in each advance step in art a stepping stone to something greater. This work in color at the exposition seems to presage not only a wider appreciation of color in its application to architectural problems, but a demand on the part of the public for a more precise knowledge of the use of color by architects.

The day is not far distant, we feel, when the architect shall be required to know not only the law of the forms which he employs but the law of color harmony as well, when, like Michael Angelo, he shall be required to wield the brush and the sculptor's chisel as well as the builder's square.



THE NORTON HOUSE, GOSHEN, CONN. AN EXCELLENT TYPE OF COLONIAL WORK.

# COLONIAL ARCHITECTVRE IN CONNECTICVT

*Text and Measured Drawings by*
*Wesley Sherwood Bessell*

**PART II.**

THE Norton house at Goshen was built when Colonial architecture was at the height of its refinement, a circumstance reflected in the quality of its mouldings. The house stands upon a knoll overlooking the valleys in all directions, and was probably erected when Goshen expected to become the county seat instead of Litchfield. The country about it still retains the quiet of a primitive settlement.

The bricks for the house were evidently made on the ground. Their colors are exquisite, running from light salmon to rich dark reds, from straw color to dark golden browns, from light blue tints to dark purple and brown. The time has gone by for such hand-made bricks, and we can hope only to approximate their beauty in our machine made product.

The cornice of the house is well proportioned, and very carefully ornamented by means of slight sinkages and cutouts.

The treatment, in relation to the house, of the living porch, with its row of two-story columns and stone flooring, cannot be too highly commended. Why not try something of this character to-day instead of our weak solution of this problem? Modern porches never seem to be a part of the house, but an afterthought.

The two houses at Litchfield, the Butler and the Tallmadge house, also show the way for a quaint and honest handling



THE TALLMADGE HOUSE, BUILT IN 1775, LITCHFIELD, CONN. THE FRONT DOOR IS OF LATER DATE.

of the question; their porches are a part of the house, a part of the whole design, and are very pleasing in appearance. In both instances the porches were added after the house had been built. Col. Tallmadge erected his after a visit to Washington at Mt. Vernon; the porch on the south end was built first, later the north one was added. The south one contains three columns on the side and is of a greater depth than the north one, which has only two columns. The space saved gave more room inside for a closet which contained a small stairway to the upper room, the opening and markings still being traceable.

The Tallmadge house was at one time a tavern, and the south end was the office. One large room upstairs was used as a ballroom, running through the house on the north side. It has since been changed into two rooms of a goodly size. Unfortunately, the present front door is not the original one, but it is said to have been similar to the one shown in the drawing of this house published on page 360 in the April number of the Architectural Record. The handling of the roofs of these additions in connection with the main house is unique, and worth studying, as is also the balustrade on the roof.

The Butler house likewise solved in a very pleasing manner the question of the porch, which also is a later addition. The deliberate manner of placement relative to the main house is much to be admired. We are afraid to do a thing of this kind to-day, simply because of some biased criticism; we lack the moral courage of our convictions, and, I am convinced, allow many charming ideas to go by. Here the face of the columns extends beyond the face of the main building, and the cornice is let die into the old house at will. The detail is refined, and shows that careful study was given to the execution of the work. The house proper was built in 1792 by Charles Butler, and the addition early in the nineteenth century.

On this same street and in the same town of Litchfield may be found numerous old Colonial homes. Just above the Tallmadge house is the old Sheldon Tav-

ern, now a private residence. Entirely different from the houses mentioned above, it was built in 1760 and shows decided earmarks of English influence; but it is more refined in detail than the majority of houses in which English ascendency is felt. It was built by Elisha Sheldon, and it was not until the next generation that it became a tavern, run by the son. Later here also lived General Uriah Tracey, and still later Judge James Gould, famous for his work known as "Gould's Pleading." The mouldings of the cornice are coarse and heavy and out of scale with other details on the house, but here we have those charming dormers of an attenuated feeling so seldom seen, the jambs being only of a width necessary for construction. The roof line shows a marked change from the general type, but still is rather desired than otherwise for the balance of the design.

Almost opposite is the Julius Deming house, built in 1793, and designed by Wm. Spratt, a Scotch architect, wrongly thought to be a Hessian. This house is similar in design to the Sheldon, but decidedly coarser in detail.

A very good and simply designed house is the Seymour homestead, built in 1807 for Ozias Seymour, and one could ask to-day for nothing more desirable; with the application of a more delicate or refined balustrade and cornice this house has a quality not to be lightly passed by.

The Reeves house, built in 1773 by Tapping Reeves, brother-in-law of Aaron Burr, shows another treatment of the roof problem very seldom seen. We cannot say it is good, but there is the very excellent treatment of a wood grill in the frieze of the main cornice, used as windows and ventilators for the attic floor. The porch and addition on the side are of a later date, and, as before stated, it is difficult to obtain a picture of the house as originally designed.

The bank building at Litchfield is of merit. By a close study of the cornice and pediment one notes the alternating circular and rectangular raised panels between the triglyphs, also the very in-



THE BUTLER HOUSE, BUILT IN 1792, LITCHFIELD, CONN. A FINE EXAMPLE WHICH SURVIVES IN ITS ORIGINAL STATE.



THE SHELDON HOUSE, BUILT IN 1760, LITCHFIELD, CONN. AT THE SIDE IS A "WITCH" DOOR.



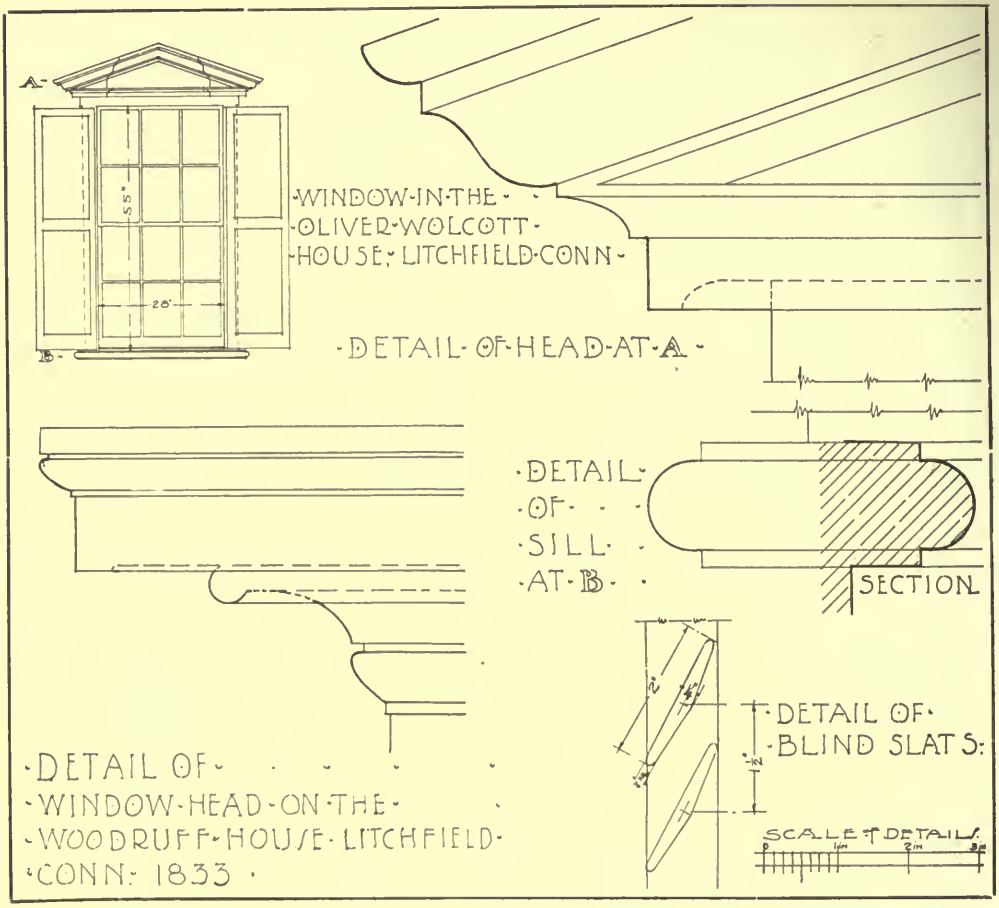
THE SEYMOUR HOMESTEAD, BUILT IN 1807, LITCHFIELD, CONN.



THE REEVES HOUSE, BUILT IN 1773, LITCHFIELD, CONN., OFTEN VISITED BY AARON BURR.



THE BANK, BUILT EARLY IN THE NINETEENTH CENTURY, LITCHFIELD, CONN.

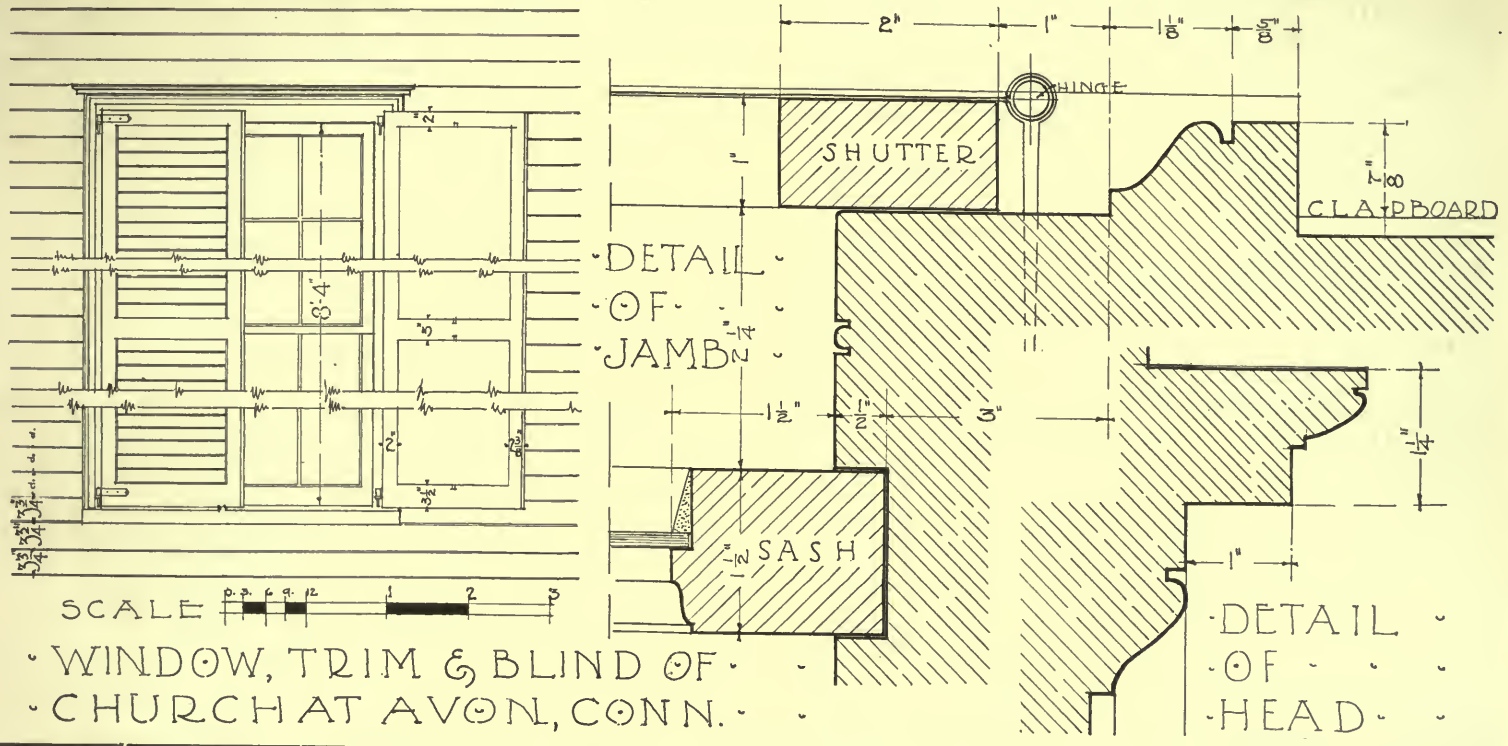



MEASURED AND DRAWN BY WESLEY SHERWOOD BESSELL.

teresting motive used in the pediment for a frieze, the ornamented oval window frame and the peculiar panelling below the first story windows. Before the addition on the side was made, a quaint outside spiral iron stairway led from the ground to the second floor.

Another form of construction and design is shown by the house at Windsor, the doorway reproducing the pediment of the house, but still retaining the greatest interest. This is an exquisite door, and, together with the windows, exceptionally well placed on the facade. The fence is of a typical Colonial design, and, without the porch at the side, this composition would be well worth a reproduction today.

The Cowles house at Farmington is a large house, designed for one of apparent wealth, and yet not over pretentious. It shows a tendency toward the southern type of Colonial architecture, something unexpected and unlooked for in Connecticut. The sloping ground gave occasion for an interesting porch treatment. The brick arches of a single brick header shows that it supports only a porch floor, the crown of the arch being almost level with the floor. The five columns are of brownstone, procured probably from the old brownstone quarries at Portland, not far distant from Farmington. The brick is at present covered with a light paint. A peculiar feature is the column in the center of the pediment, with the Paladian window treatment over this column, a treatment very seldom seen. The Paladian window is decidedly poor, but, taken as a whole, the design is good, especially the front, with a very odd but pleasing front door.




MEASURED AND DRAWN BY
WESLEY SHERWOOD BESSELL.



A HOUSE AT WINDSOR, CONN.

The construction and design of windows varied much; there are some with a full pediment at the head, some with the broken pediment, others with a full cornice treatment, and still others with just a few crown mouldings. The sashes never hung by weights, but were caught by pins let through the sash into the jamb; sashes were of the small light type, and all muntins rather delicate than coarse or heavy. Sometimes a stiff metal was used in the very small muntins. The rails were generally an inch to an inch and a half in width, the sashes themselves usually being one and one-half inches thick.

The detail drawings show three types of these window heads, and also the typical blind construction. The blind hardware varied and was often made by the village blacksmith.

Windows never were placed in double or triple formation, except as a Paladian motive, and bay windows were not used as a means of exterior or interior feature. These two facts show clearly why everything was so very simple. Limited to just single windows and a door, there would be no reason to expect anything but severity of design; but to these add bay windows and large window openings, and immediately the thing is lost so far as pure Colonial design is concerned. They belong to our English cousins' beautiful, rambling farm cottages and manor houses.

The blinds of a house add the final color touch and finish. Unfortunately, one seldom sees this feature on a modern adaptation of the Colonial doorways, and here is just where to obtain that naive quality which we have lost.

# THE NEW GENERAL HOSPITAL AT CINCINNATI

## SAMUEL HANNAFORD & SONS ARCHITECTS

BY J. R. SCHMIDT

BEFORE plans were drawn for the new General Hospital, just opened in Cincinnati, Ohio, a commission of specialists inspected all the notable modern hospitals in the United States and Europe, with the result that the group of buildings comprising this institution, for which the city has spent nearly four millions of dollars, embodies the very latest and most approved methods of hospital construction and management. The General Hospital is a municipal hospital for the city's poor. It contains forty-two wards, employs more than 600 persons, and is situated on a tract of sixty-five acres in the suburb of Mt. Auburn, on a high plateau removed from the smoky downtown business district, but lying almost in the center of the territory bounded by the corporation line. The buildings which have been already erected are so built that the future expansion of the institution is taken care of; additional buildings may be connected up with the power plant and other common utilities as the future growth of the city demands.

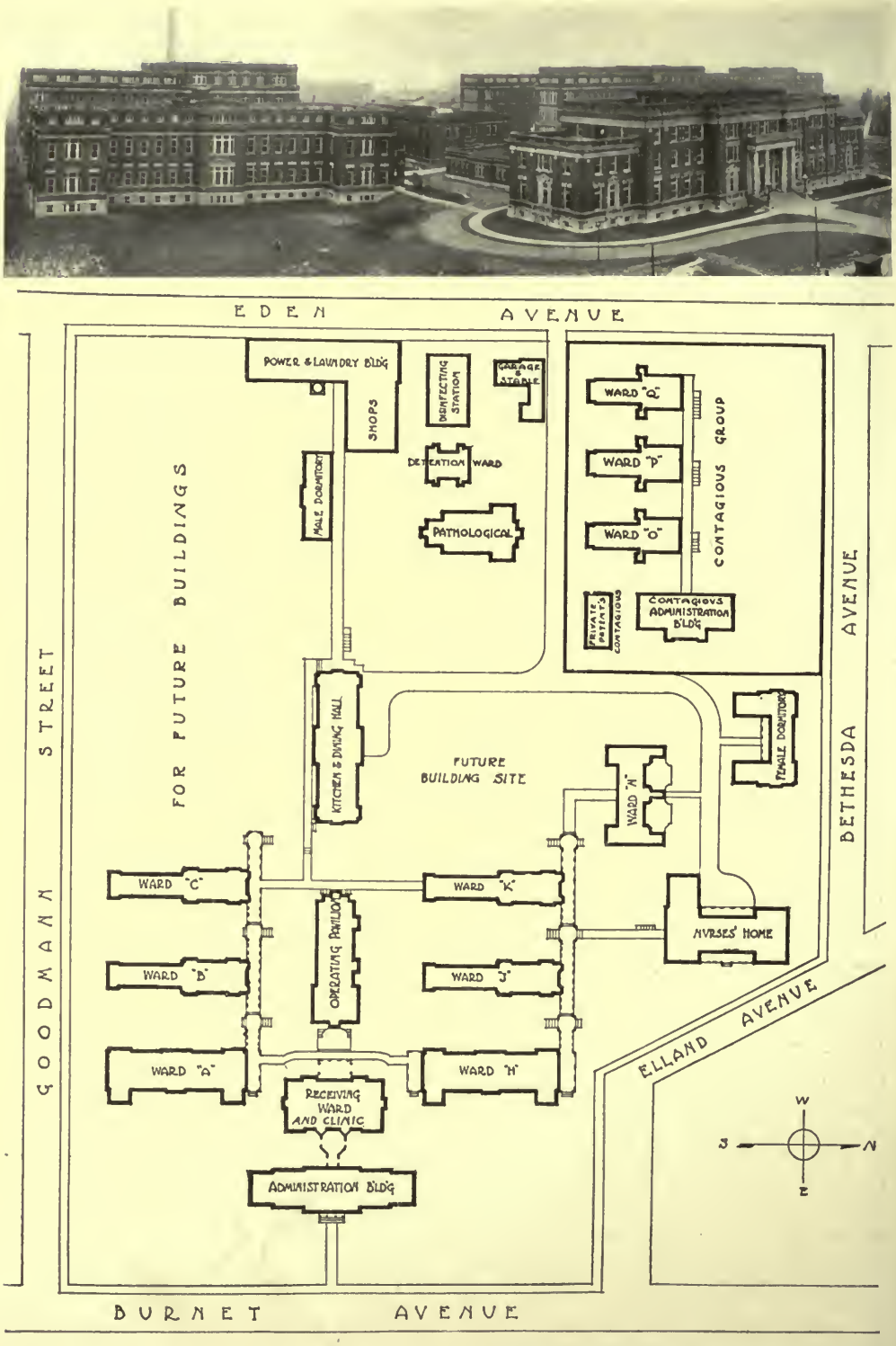
The buildings already occupied are the administration building, the receiving ward, the outdoor clinic, seven ward buildings, the operating pavilion, the kitchen, the dining hall, the men's dormitory, the detention ward, the power plant, the laundry, the garage, the stable, the female dormitory, the nurses' home, and the pathological building.

To the northwest of this main group is a smaller group of six buildings, a separate hospital in itself, where all contagious diseases are treated. In this group is an administration building, a nurses' home, a detention ward building, and three ward buildings. There is also under way a special building where special contagious diseases, such as smallpox, will be treated.

The natural and graded slope of the land is such that the more important ward and administration buildings occupy the higher part of the site, which has about a one per cent. slope; thus, in time, the power plant, stables and garages and the like may be almost entirely screened from view from the main buildings, by proper parking and planting.

The highest point in the tract is at Burnet avenue, upon which the more important of the buildings front. It is about fifty feet higher than the west boundary, yet each building is connected with the others by an underground tunnel, so that it is possible to pass from one to another without going outdoors.

The buildings, though plain, are well proportioned and dignified. The very best of construction has been employed. All buildings are as nearly fireproof as it was possible to make them. Foundations are of concrete, waterproofed and underdrained. The exterior walls are of brick, faced on the outside with a warm, brown-toned impervious pressed brick, thoroughly waterproofed. The trimmings are of white Bedford stone. Floor and roof constructions are of reinforced concrete, and most of the floors are finished in tile, with bases of terrazzo. The details of the interior finish in every part have been carefully studied. All angles are rounded, and everything has been done to make the buildings easily cleanable. There is no interior window trim or finish around doors and windows. The base and door frames are set flush with the finished plaster faces of the walls. Door frames




VIEW AND GROUP PLAN OF THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.

are of steel, and all passageways are provided with steel guard plates set flush with the plastering.

A hot water system of heating is employed, with direct radiation. Ventilation is provided in all ward buildings by means of fans, one for supply and one for exhaust in each ward. The air is thoroughly screened, washed and humidified before being distributed in the wards.

Plumbing fixtures were made of special design. All the pipe work is of brass, and everything is so constructed that it can easily be cleaned and repaired. Plumbing fixtures are of vitreous ware, with nickel trimmings.

Realizing that fresh air is of the utmost importance in the treatment of the sick, each ward building has on its roof an open ward, where patients may live in the open. These open roof wards are provided with awnings for protection against rain and sun. They are also provided with toilet rooms and ward kitchens. All the roof wards, porches and covered ways are paved with red quarry tile; flashings and sheet metal work throughout are of copper.

The main administration building faces on Burnet avenue. In it are the offices of the Superintendent and his assistants, the main business offices, the record rooms and the quarters for the staff of physicians and internes. At the south end, on the first floor, is a large library, in which will be housed a very valuable collection of reference books. At the north end of the building is a lecture room, in which medical societies will hold their meetings. In this building also are the central telephone exchange and switchboard for signal service, which connects with every bed in the various wards, so that at all times the condition of each patient can be immediately telautographed to headquarters. Besides having this wonderful system of telautography, all buildings, wards, and departments are connected with intercommunicating telephones.

On the upper floors of the administration building will be sleeping rooms for internes and house physicians. At the south end of the second floor is a suite set aside for the Superintendent. Recreation and sitting rooms are also provided for physicians and internes on this floor. The central portion of this building is three stories in height, while the north and south wings are two stories, with roof gardens over them for the use of the occupants of the building.

One unusual thing about all the elevators in ward buildings is that they are placed in separate towers, isolated from each other and from each floor, so that there is no direct connection between wards that are placed one above the other. This feature is carried out in all the buildings, in order to prevent any possible chance of cross-infection. The idea is also applied to all clothes chutes.

The buildings in the contagious group lie to the northwest of the main group. They differ in construction, insomuch that they are only two stories high; the wards also are somewhat smaller, having a capacity of sixteen beds each.

The operating pavilion lies west of the receiving ward. It has five operating rooms, two on the first floor and three on the second. These are connected with the etherizing and sterilizing rooms, the nurses' workrooms, etc. In the basement of the building is the big drug-room and storeroom for drugs. A complete X-ray department, with photographic dark-rooms, is also in this basement. A large amphitheater is located in the east end of the building. It is to be used as a lecture and demonstration room. It contains very large and specially built moving picture and lantern projection machines. The amphitheater is cut off from the operating portion of the pavilion, there being no communication between the two.

Immediately behind the operating pavilion is the kitchen building. This structure stands almost in the center of the group of ward buildings, where all wards may be served most conveniently. The big kitchen occupies the first and main floor. The basement contains an ice plant, cold storage warerooms, and a large space for sterilization of food boxes used by the patients.

In the power building are now located six of a battery of twelve water tube



ADMINISTRATION BUILDING—NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



WARD BUILDING "A"—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



WARD BUILDINGS "C" AND "B"—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



WARD BUILDINGS "H" AND "J"—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



REAR VIEW, WARD BUILDINGS "J" AND "K"—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



OPEN-AIR WARD, ON ROOF OF EACH WARD BUILDING—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



INTERIOR OF ONE OF THE WARD BUILDINGS—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



ONE OF THE OPERATING ROOMS—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



ONE OF THE OPERATING PAVILIONS—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



NURSES' HOME BUILDING—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



COVERED ROOF-GARDEN ON NURSES' HOME BUILDING—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



KITCHEN BUILDING—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



KITCHEN—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.



CONTAGIOUS DISEASES GROUP—THE NEW GENERAL HOSPITAL, CINCINNATI, OHIO.
Samuel Hannaford & Sons, Architects.

boilers of 260 horsepower capacity each. The engine room is in another building adjoining. The equipment of this room consists of three units of high-speed engines, directly connected with 250 K. W. generators. In this room are also the switchboard, the air compressor, and the refrigerating machinery. Electric current is used throughout all the buildings for light and power.

In the second story of the power house is the laundry. One-half is for the care of the patients' clothing, while the other half is for the care of the clothing of the employees of the institution. The laundry is equipped with the best of laundry machinery, modern in every respect. On the second floor of the boiler house are the machine, carpenter, and paint shops, all of which are properly equipped with machinery and supplies to care for the repair and maintenance of the buildings and equipment.

The research building lies in the rear of the contagious group and is a five-story structure housing the chapel, research laboratories, a large amphitheater where students go for instruction, operating rooms for vivisection purposes, etc. This work will be of the greatest scientific value and will be in charge of Dr. Paul G. Woolley.

Away from the noise of traffic on the main thoroughfares is the nurses' home. It has a basement, four stories and a roof garden. It is connected with all the other buildings in the group by the underground tunnel. Every convenience has been added to make the home a place of rest for tired nurses. On the first floor are a library, several rooms for educational purposes, reading rooms, rest rooms and a laboratory for the teaching of special work. The second, third and fourth floors have sleeping rooms for the nurses. Each room has its private bath and toilet. On each of these floors is set aside a little tea room and kitchen for the use of the nurses as they see fit in preparing light lunches for themselves. There is a roof garden with a large inclosed shelter house over the central portion. Here it will be possible for the nurses to take recreation in the open air at any time. Provision has also been made for those who desire to sleep out in the open air.

A female dormitory is located in the rear of the nurses' home. All female employees of the institution will be housed there, excepting the nurses, who are taken care of in the nurses' home. The main features of the nurses' home apply to this building, but it does not contain a separate dining-room, the occupants taking their meals in the general dining-room for employees.

The equipment of this new hospital is of the highest possible type. No other hospital is so modern, so well equipped in every detail. World renowned physicians have helped to make it the best possible hospital. The city of Cincinnati owes the success of this institution to Dr. C. R. Holmes, who spent years in the study of hospitals everywhere before imparting the information gathered to Samuel Hannaford & Sons, of Cincinnati, the architects of the institution.

The entire project of building this new hospital was placed with the hospital commission, consisting of Dr. C. R. Holmes, Mr. Harry L. Laws, Dr. J M. Withrow and Mr. Louis S. Levi.



GARDENS—RESIDENCE OF C. F. PERRY, ESQ., HOLLYWOOD, CAL. B. COOPER CORBETT, ARCHITECT.

# PORTFOLIO OF CVRRENT ARCHITECTVRE



DETAIL—RESIDENCE OF MRS. LOUISE A. DENKER, LOS ANGELES, CAL. B. COOPER CORBETT, ARCHITECT.



RESIDENCE OF CHARLES SHARP, ESQ., LOS ANGELES, CAL.
B. Cooper Corbett, Architect.



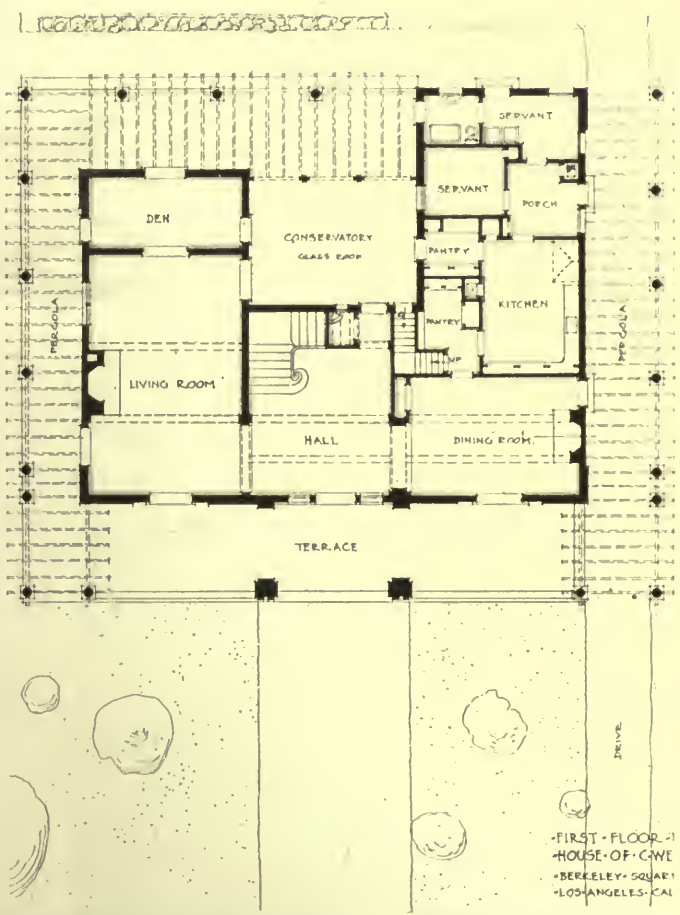
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B. Cooper Corbett, Architect.



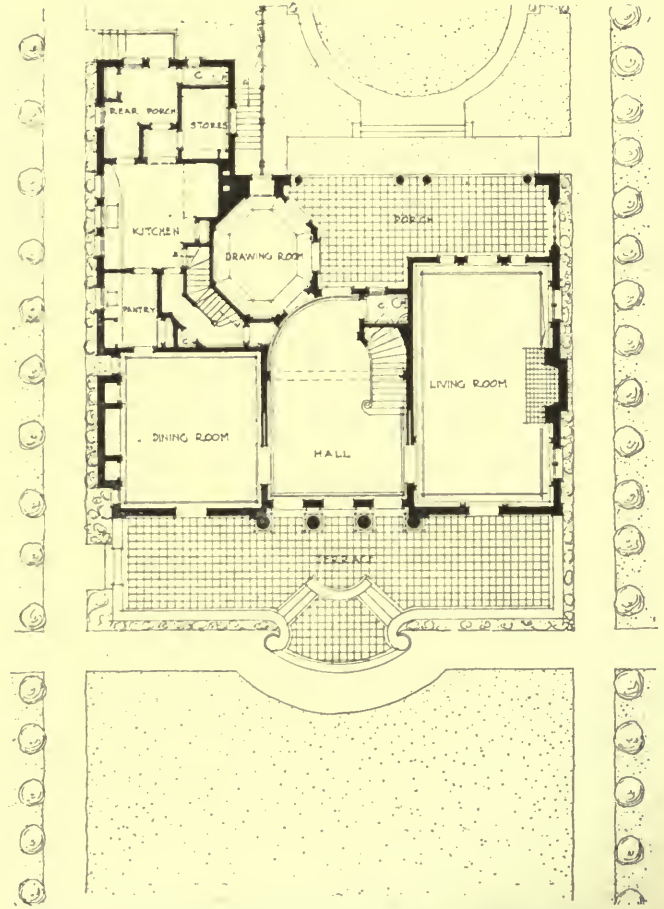
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B. Cooper Corbett, Architect.



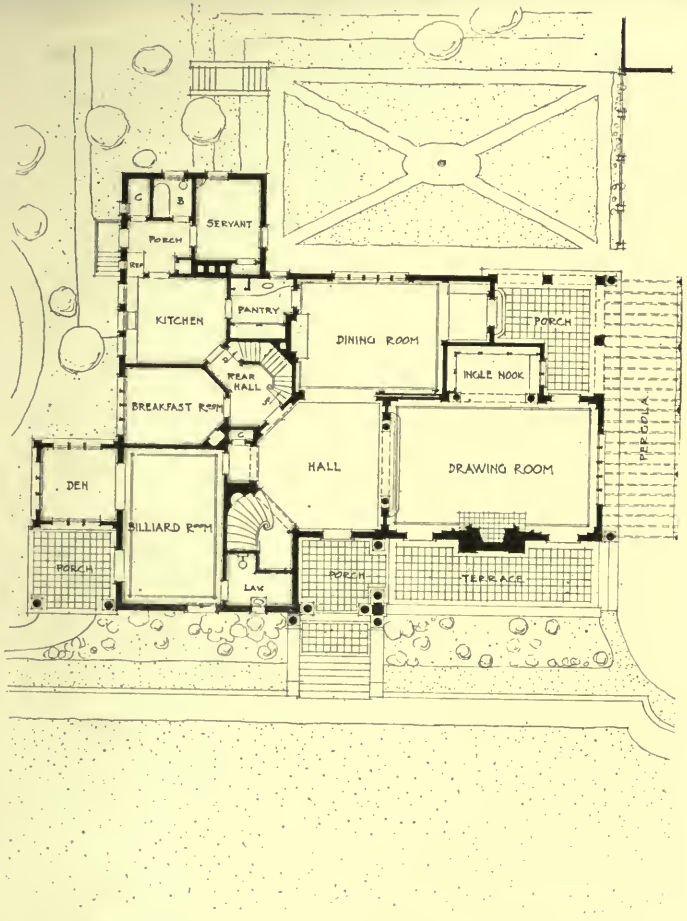
RESIDENCE OF C. WESLEY ROBERTS, ESQ., LOS ANGELES, CAL.
**B. Cooper Corbett, Architect.**



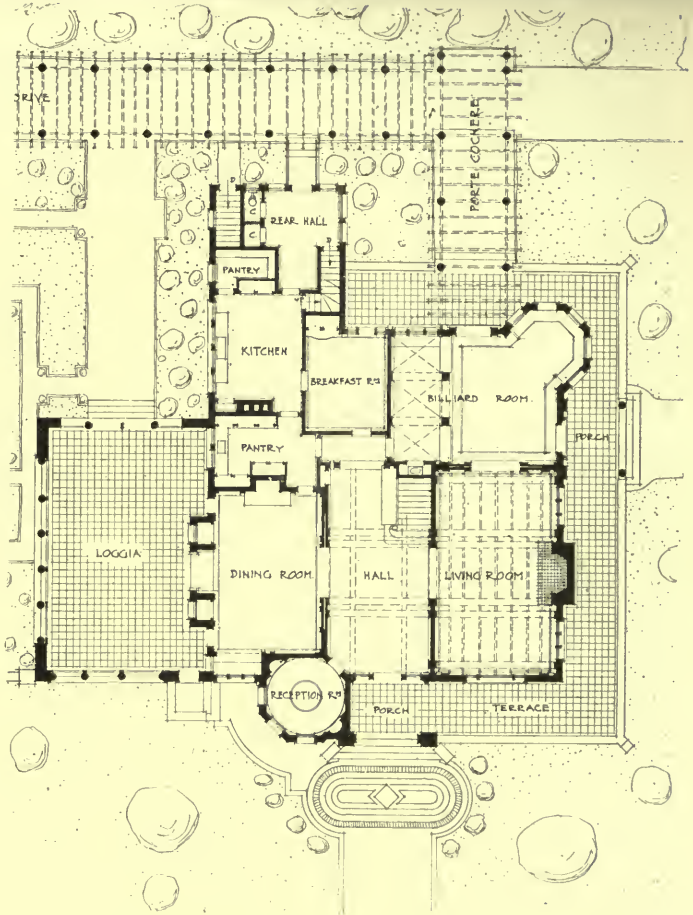

FIRST FLOOR PLAN—RESIDENCE OF C. WESLEY ROBERTS, ESQ., LOS ANGELES, CAL.
B. Cooper Corbett, Architect.




FIRST FLOOR PLAN—RESIDENCE OF MRS. LOUISE A DENKER, LOS ANGELES, CAL.
B. Cooper Corbett, Architect.




FIRST FLOOR PLAN—RESIDENCE OF C. F. PERRY, ESQ.,
HOLLYWOOD, CAL.
B. Cooper Corbett, Architect.




FIRST FLOOR PLAN—RESIDENCE OF CHARLES SHARP, ESQ.,
LOS ANGELES, CAL.
B. Cooper Corbett, Architect.



WAREHOUSE AND BRANCH OFFICE OF THE RUMELY PRODUCTS COMPANY, SASKATOON.




THOMAS CHURCH BUILDING, CHICAGO.
Hill & Woltersdorf, Architects.



GARAGE AND STABLE OF OSCAR F. MAYER & BROS., CHICAGO.
Hill & Woltersdorf, Architects.



BUILDING OF BURKE & JAMES, CHICAGO.
Hill & Woltersdorf, Architects.




BUILDING OF THE MEYER-BOTH COMPANY, CHICAGO.
Hill & Woltersdorf, Architects.




LABORATORY OF THOS. J. DEE & CO., CHICAGO.
Hill & Woltersdorf, Architects.



ONTARIO STREET ANNEX—TREE STUDIOS, CHICAGO.
Hill & Woltersdorf, Architects.




# BOOKS ON MEDIEVAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART I.

AT a time when the uncertainty of international conflict hovers over many a medieval building, an additional stimulus enlivens our interest in the great formative period that preceded the Renaissance. The writers, responding faithfully to the demand, have produced a number of new works and new translations and editions of recognized works of standard value, which should aid in no small degree in rendering intelligible the architectural significance of the stupendous struggle that has already so extensively laid its toll upon the vestiges of a splendid past in Europe.

Of great interest, though slightly beyond the present troubled area, is the volume by Henry Adams entitled *Mont-Saint-Michel and Chartres* (Houghton, Mifflin Company, Boston and New York, quarto, pp. xiv-401, ill., $6). Ralph Adams Cram, arch-apostle of things Gothic in this country, writes a brief introduction for the work; not to introduce it necessarily, but in reality to make public apology to the author because his notably meritorious volume—so long hidden from students as a private publication—has only now been given to the world. Mr. Cram calls this "one of the most distinguished contributions to literature and one of the most valuable adjuncts to the study of medievalism America thus far has produced." Nor has he grossly exaggerated the worth of Mr. Adams' book. It is a readable and flowing series of chapters covering not only Mont Saint Michel, a pioneer in six-part vaulting, and the cathedral of Chartres, a pioneer in the use of the oblong vaulting bay, but also Coutances cathedral and the "Abbaye aux Dames," Queen Matilda's church at Caen. It follows into many channels the developments of stained glass and of apsidal plans, of towers and of portals, not to mention the fine chapters on Abélard, the Miracles of Notre Dame, the story of Nicolette and Marion, and on the three important queens of the Gothic period in France, Eleanor, Mary and Blanche. In these chapters Mr. Adams' ability is at the full, although the genteel manner of the *causerie* runs through the whole volume without at any point lacking the foundation of facts and of architectural understanding. We should wish for other volumes equally flowing in their treat-

ment; the monuments of the Middle Ages, splendidly set in a unified life and reflecting it in a thousand brilliant facets, lend themselves readily to the graceful and subtly informing style of which the author well understands the beauties. Our technical historical discussions are many and accurate, too many of our pages bristle with argument on the fine points of attribution and of origin, but they are on our shelves until needed; they rarely appear on our library tables, and we do not often open their covers unless searching for information immediately required. This volume on Mont Saint Michel, on the other hand, is both technical and attractively written; its place is assuredly within the reach of the architect who is always "too busy to read," chiefly because too many books are written with undisguised purpose "at" instead of "for" the architect. An added recommendation of the work is its publication by authority of the American Institute of Architects, of which body Mr. Adams has recently been made an honorary member "as one who has rendered distinguished services" to architecture.

A book of entirely different character, though attempting a similar vein, is that on *Cathedrals and Cloisters of Northern France,* by Elise Whitlock Rose, with illustrations from original photographs by Vida Hunt Francis. (G. P. Putnam's Sons, New York; two volumes, octavo, pp. xvii-297 and pp. x-345, ill., $5.) This forms the concluding part of a series of four two-volume works on the cathedrals and cloisters of France, others having covered Midland France, South of France and the Isle of France. All the volumes are profusely illustrated with fresh material—there are no less than two hundred and fifty views in the present set—and for this reason especially useful for the architect and present day traveler; while the text is the compound result of much research and extensive personal contact with the buildings, which have bred an appreciative understanding of medieval architecture and clerical life, fitly conveyed in a brisk, somewhat business-like style. This manner of writing cannot, of course, be considered a detriment; rather, for a work of this kind, a decided benefit. The area covered by the volumes in hand demands so many illustrations that the text can be but a running comment at best, if the whole story shall be told; yet Miss Rose has been particularly successful in avoiding the guide-book descriptive manner. Long chapters are assigned respectively to Alsace-Lorraine, Champagne, The Nivernais, Maine, Anjou and Laval; of these the first and second are notably well written. Miss Francis' photographs are of exceptional quality and the point of view is essentially that of a trained medievalist. In fact, the authors seem to have struck the happy mean of give and take which makes enjoyable the otherwise diplomatic task of collaboration. The present book, like the other pairs of volumes preceding it in the series, is well bound in attractive covers; the type is large; in general the work will stand a credit to both authors and publishers as a reliable reference book on the diocesan buildings of northern France.

By far the best of the recent works on medieval art in France is the large volume entitled *Religious Art in France; Thirteenth Century; a Study of Medieval Iconography and Its Sources of Inspiration,* by Emile Mâle, translated from the third edition, revised and enlarged, by Dora Nussey. (E. P. Dutton and Company, New York; quarto, pp. xxiv-415, ill., $6.) This is a masterly treatise with a broad foundation in symbolism and the didactic quality of Gothic art, dealing with medieval Christianity as a fluid, mobile and living thing, and properly collating the art with life, thought and theology to form a splendid Christian unity.

M. Mâle's first words are: "The Middle Ages had a passion for order." A thorough medievalist, his book partakes of the orderliness he lauds. He begins with an analytical chapter entitled "General Characteristics of Medieval Iconography," in which he sets forth that medieval art is characterized notably as a script or sacred writing, as a calculus or sacred mathematics, and as a symbolic code. We have been prone to grant too little importance to the symbolic quality

of Gothic art; a true understanding of this would long since have indicated the single thread of harmony that runs through all things medieval. The unifying current of symbolism permeated the life of the thirteenth century as thoroughly in France, as our so-called "business instinct" dominates the life of the twentieth century in this country.

But it will require more than a simple appreciation of the symbolic element in medieval ornament fully to convey the fact that the designers of the time "organized art as they organized dogma. The artistic representation of sacred subjects was a science governed by fixed laws which could not be broken by the dictates of individual imagination."

In the first place, the art of the Middle Ages developed—as must any art when general education is at a low ebb—a kind of hieratic language which indicated to the *plebs Dei* all that it needed to know of the religion which was life. This sacred script acquired a great complexity but never lost a rigid regularity and sameness of meaning, however the individual forms may have been employed or manipulated. The result was an ecclesiastic grammar, in which the relation of parts was utterly organic and therefore always intelligible when properly used. Misuse of symbols was tantamount to heresy. Each artist had, therefore, to learn an ecclesiastic alphabet of forms, for by the very forms did his record take shape. There is no need in such didactic forms for great depth or beauty in the abstract or aesthetic understanding on which we pride ourselves and which inflicts upon art an aloofness which it never properly possessed nor desired to convey. We spend much time seeking modern beauties in medieval art, projecting temperamental or sentimental significance into motives which speak an obvious language that escapes us because it is so direct and plain spoken. Yet the emotional was not eliminated; that could not be the case at such a time of fervid, often ascetic, Christianity.

But apart from the symbolism of use which dictated bare feet here and aureole there, we must give importance also to position, grouping, symmetry and number in medieval iconography; for by virtue of its observance of these qualities the emblematic story of the Middle Ages developed a sort of sacred mathematics, subject to formulae scientifically as rigorous. In this connection must be noted the orientation of buildings, the relative positions of symbols, the comparative significance of different parts of churches, the interrelation of figures in religious history being closely paralleled in their carved, painted or stained glass counterparts. Thus the more gloomy northern transept arm, for instance, was decorated with motives from the Old Testament, the warmer southern transept with those chosen from the New Testament. The symmetry which signified inner harmony appears in the balancing of the twelve ancient patriarchs or the twelve prophets against the twelve Apostles of Christ; and in the same fashion other groups were disposed according to a sort of biblical equation. The Virtues and Liberal Arts, in equal numbers, are similarly balanced, e. g., in opposite windows or in opposite or parallel recessed doorways. The meaning of numbers in this connection may be better understood by an actual passage from M. Mâle referring, by way of example, to the ritualistic interpretations of the numbers twelve and seven: "Twelve is the number of the universal Church, and it was for profound reasons that Jesus willed the number of His apostles should be twelve. Now twelve is the product of three by four. Three, which is the number of the Trinity and by consequence of the soul made in the image of the Trinity, connotes all spiritual things. Four, the number of the elements, is the symbol of material things—the body and the world—which result from combinations of the four elements. To multiply three by four is in the mystic sense to infuse matter with spirit, to proclaim the truths of the faith to the world, to establish the universal Church of which the apostles are the symbol." The computation involving the number seven is yet more ingenious; it reaches a real grandeur. "The number seven, regarded by the Fathers as mysterious above all others, intoxicated the medieval mystic. It was ob-

served first of all that seven—composed of four, the number of the body, and of three, the number of the soul—is pre-eminently the number of humanity, and expresses the union of man's double nature. All that relates to him is ordered in series of sevens. Human life is divided into seven ages with each of which is associated the practice of one of the seven virtues. The grace necessary for the practice of these seven virtues is gained by addressing to God the seven petitions of the Paternoster. The seven sacraments sustain man in the exercise of the seven virtues, and guard him from falling into the seven deadly sins. The number seven thus expresses the harmony of man's nature, but it also expresses the harmonious relation of man to the universe. The seven planets govern human destiny, for each of the seven ages is under the influence of one of them." On this point witness the carvings of the seven ages of man on the capitals of the Doge's Palace at Venice and the frescoes of the Chapel of the Eremitani at Padua; the tradition is undoubtedly to be led back to classical times. "Thus seven invisible threads connect man with the scheme of the universe. Now the beautiful symphony made by man and the world will last for seven periods of time . . . of which six have already passed. By creating the world in seven days God gave man the key to these mysteries, and the Church celebrates the sublimity of the Creator's plan when she sings His praises seven times a day."

Finally we have the manifestation of medieval art as a symbolic code, on the basis of which definite ideas are given a figurative expression, and therewith a quickening spirit. It is an art of intentions, as well as of actualities. Thus the four rivers of Paradise are not only what they seem pictorially, but represent also the four Evangelists pouring their beneficent doctrine in a flood over the world. The liturgy itself contains a myriad of hidden meanings, and each stage of the mass is a step in the unfolding of the great story of life, death and salvation. Thus the long neglected works of the medieval liturgiologists must be exalted to a new dignity, equal to that accorded to splendid figures like Hugh of St. Victor, Rhabanus Maurus, Gulielmus Durandus, Thomas Aquinas and Vincent of Beauvais himself. In the same fashion we might follow this figurative expression in its multiple applications in clerical vestments, in illuminated manuscripts or in portable church utensils. Nor is it fair to consider the extent and intricacy of this symbolic system the result of a play of fancy, devising by devious means far fetched connotations or befuddling numerical puzzles. The fervor of the medieval Christian is not to be denied, and whatever his failings as zealot and devotee, he was a good churchman, the sole teacher of the people, and in that sense at least thoroughly religious. In his ecclesiastic art we can therefore expect a sincerity and uniformity of purpose and in his all embracing symbolism an amplification of the only ready means of access to the minds of the masses for the truth they so much needed.

The main body of M. Mâle's book carries out the threefold interpretation promised in the introduction, and the author arranges his task in accordance with the subdivision laid down by Vincent of Beauvais, the *librorum helluo* or devourer of books, the most comprehensive thinker of the Middle Ages, in his *Mirror*. This was one of a large number of works, called variously *speculum, summa*, or *imago mundi*, in the encyclopedic thirteenth century. Believing thoroughly in the fitness of things, M. Mâle has chosen the *Speculum Majus* of Vincent of Beauvais as a model, for, says he, we may not without danger of error project our modern categories into the work of the Middles Ages and expect the latter to order itself according to an alien mode of classification and thought. Vincent adopts "the very plan of God as it appears in the Scriptures" and divides his stupendous work into four major parts, each called a Mirror, as follows: the Mirror of Nature, the Mirror of Instruction, the Mirror of Morals, and the Mirror of History. The four Mirrors are logically connected, more or less as a cumulative develop-

ment. We begin with Nature and the truth of Creation, culminating in the sixth day's achievement and the appearance of man upon earth. The Mirror of Instruction recites the eternal question or "riddle of the universe;" it treats of the fall of man, and his endeavor to rise again—through knowledge which gives power—by beginning the work of his redemption with the labor of his hands in the mechanical arts. Since the end of life is not only "to know but to act," since knowledge is the key to virtue, we are led naturally to the Mirror of Morals, wherein the virtues and vices are carefully classified. Having thus analyzed and laid bare the substance of man, it behooves us to note his ability in shifting for himself, in unwinding the course of his life under the unseen guidance of God; this is the Mirror of History. To Vincent, the Churchman, the only true history is of course the history of the universal or Catholic Church. Pagan life has a mere synchronic value, incidental to the brilliant course of Catholicism with its eminently coherent sequence of Old and New Testament saints.

In this quartet of *Mirrors* Vincent of Beauvais gathered together the sum and substance of the Middle Ages, an eternal pandect or synopsis. No less fundamental a transformation than the Renaissance itself was necessary to add to its information. It portrays vividly the leading conceptions that inspired thirteenth century art; "the same genius disposed the chapters of the *Mirror* and the sculpture of the Cathedral. It is legitimate to seek in one the meaning of the other."

M. Mâle's system then is that of Vincent of Beauvais throughout, and his thoroughness not a jot less. He runs the gamut of sculpture and stained glass, of capitals and corbels, of floral motives and monsters, of lunettes and lintel bands of painted walls, pinnacle and carved portals. He cites chapter and verse for every assertion with a methodical directness that is little short of perfect in its command of literary as well as monumental sources. The porches of Chartres live again and we find its figures moving to a sort of churchly music of the spheres which permeates the Middle Ages and imparts to them a oneness that brooked but few exceptions. We travel from Laon to Amiens, from Bourges to Poitiers, and the truths are always the same; solid homogeneity and order demand that the same story be taught in the same way throughout Christendom.

M. Mâle is a medievalist second to none, and his sincerity strikes a quick note of accord in the reader. But he is not a preacher for the modern. That is not his chosen province; he simply takes the fine Gothic time when the flower is full blown and unfolds its hidden beauties to eyes that had thought to see all its truths, but that soon appreciate the shallowness of usual study and begin to sound a new depth. He does not point Gothic lessons for the present; nor does he advocate the resurrection of an artistic mode of speech hopelessly beyond reach. He attempts only to indicate the manly conviction and ingrained faith which dominated one of the golden ages of art.

The book is somewhat heavy, but the number of illustrations—there are one hundred and ninety—is largely responsible for that. The "make-up" of the volume deserves particular mention. The many necessary references are gathered in easily legible footnotes, so that frequent place names may not clutter the text. There is an appendix giving a list of the chief works devoted to the life of Christ, appearing in the churches of the end of the twelfth, the thirteenth and the fourteenth centuries. Finally there is also an exhaustive bibliography, an index of works of art classified by character or subject, location and building. We are glad to congratulate both M. Mâle and the E. P. Dutton Company upon an authoritative publication, thoroughly successful in every particular.

# NOTES AND COMMENTS

**A Seashore Cottage at Nantucket.**

Small country houses are so seldom designed by architects of any real ability that every instance of a good and original design in this field deserves notice. The little house at Nantucket, herewith illustrated, is one of the most attractive that has recently come to our attention. It is the property of Miss Alice M. Corse, and was planned by her brother, Mr. Henry T. Corse, Jr., of New York.

The house faces directly on the ocean, with its back to the road. The entrance, from the rear, leads to a small stair hall, and thence to the main living-room, with an alcove giving directly on the beach. Adjacent is a porch of comfortable size, and back of this the dining-room. The service is located in the wing toward the road, on the right of the entrance. Upstairs are four masters' bed-rooms, maid's room and bath.



HOUSE OF MISS ALICE M. CORSE, NANTUCKET, MASS.
Henry T. Corse, Jr., Architect.

In a construction of this size, elaborate architecture would be out of place, and Mr. Corse, very properly, has treated the building with the greatest possible simplicity. The entire house is shingled; the porch columns are simple, square wooden posts; the chimneys are of the plainest description. Interest is given, however, by the effective grouping of the windows and their subdivision, and by the unusual lines of the roof. On the main front the roof has been carried down in a long slope over the porch, with the three domes to add variety to its surface, while the hip on the sides is cut off so as to give a vertical wall up to the tops of the second story windows. On the rear the same scheme is logically carried out, the symmetry of the sides determining the treatment of each portion of the roof. The only questionable feature is the gable over the stairs, as it seems that a hip roof at this point might have composed more harmoniously with the general arrangement. But the design as it exists is good enough to be cause for self-congratulation both to the architect and to the casual visitor.

In view of its undoubted architectural merit, the low cost of this house is quite remarkable. Those who consider an architect as an expensive and unnecessary luxury may be interested in knowing that the total cost, including the land, was less than five thousand dollars. Even the omission of a cellar, according to the local custom, makes this economy none the less noteworthy.

**A Bank, Monumental and Beautiful.**

The Continental American Bank, the latest of the great buildings erected in Chicago by the office of the late Daniel H. Burnham, is a tremendous production. It occupies an entire block, approximately 600 feet in length by 200 feet in width, and it is twenty-five stories in height. The exterior is massive in scale and simple in composition. The detail is not of special interest aside from the great colonnade of red granite columns which extends the entire length of the basement and first story on the principal front. Above the basement and first story the building is built in a hollow square which permits of the first story being lighted by a vast skylight, many thousands of square feet in area. It is this first story which is the most interesting and successful feature of the great building. It is occupied by the important banking institution which gives the building its name. The dimensions of this first story are so tremendous and the scale which has been employed in its architectural treatment so immense that although the height of the basement is sufficient to afford a story of sufficient height to provide quarters for another great bank, the stairs which lead at each end of the block from the entrance and elevator lobby to the main banking floor seem absolutely inconsiderable and give one the feeling of being not more than three or four risers in height. The floor of the banking room itself is that of a great Grecian temple, with triple rows of columns down each side. The bank screens have all been placed behind the second row of columns and their material and detail as well as that of all the other features of the room have been kept low in tone and are beautiful and well studied in detail.

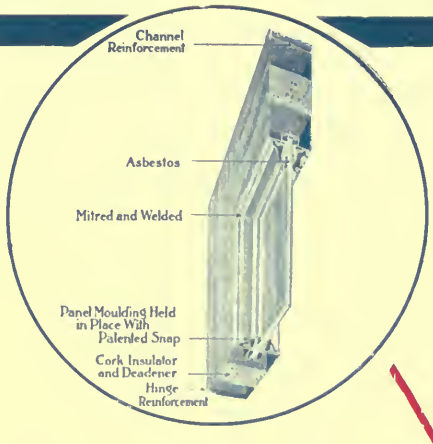


HOUSE OF MISS ALICE M. CORSE, NANTUCKET, MASS.
Henry T. Corse, Jr., Architect.

**A Layman on Builders and Planning.**

This many a day we have waited for the small but effective voice out of the wilderness that would indicate the opinion of the world as to the case of architect versus builder. To most of us the idea of competition between these gentlemen is ridiculous, yet the stern reality is forced upon us as soon as we leave the cities and observe the activity of builders in communities smaller. In such important matters we sometimes hear the keynote struck in the enemy's camp, as it were, and for that reason we are not greatly surprised to come upon the following, which is an excerpt from the letter of a correspondent of the Christian World: "The worst is that there are duffers in the architectural profession. An architect wants choosing. But the right kind of architect is a man who is very seldom overpaid for his work." What truths are these! The duffers we are anxious to ostracise after the manner of the ancient Greeks, for it is they who render the choosing necessary. But, architecturally, the word overpaid does not exist. "He . . . ensures that . . . the builder does precisely what he has engaged to do . . . and . . . as a usual thing the architect is able to produce, in cooperation with the builder, a much more attractive house than the builder would have produced on his own account. After all, the work of the builder is building, not planning." And this last sentence the editorial writer of The Builder calls the Kimberly diamond found in the blue clay, and he adds with relish: ". . . When the average man discovers that the work of the builder is building, not planning, the architects may make a joyful sound and put crowns upon their heads."


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# THE ARCHITECTVRAL RECORD

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PORTICO AND CLOCK TOWER—ACADEMIC BUILDING, JOHNS HOPKINS UNIVERSITY, BALTIMORE. PARKER, THOMAS & RICE, ARCHITECTS.

# THE ARCHITECTVRAL RECORD

JVNE, 1915

VOLVME XXXVII NVMBER VI


## The NEW HOME OF JOHNS HOPKINS VNIVERSITY

*By John Martin Hammond*

THE development of the city in the neighborhood of the present buildings of the Johns Hopkins University and the growth of the undergraduate department rendered necessary, a decade and more ago, the creation of a new home for the institution; and the movement which resulted from a recognition of this need has taken definite shape in "Homewood," the new seat of the school. The beautiful tract of woodland which was selected as the site for the university has been surveyed and graded, and five of the units of the projected university group, including Gilman Hall, the principal building, have been completed, so that the architects and planners of the establishment are fully committed to their plans. The university expects to be in operation at Homewood in the fall of this year. It is safe to assert that in general beauty and charm the grounds and buildings of Homewood have rarely been equalled and the disposition of the buildings with regard to each other and their individual arrangement present features of novelty, ingenuity and practicality of construction of absorbing interest to architect and layman.

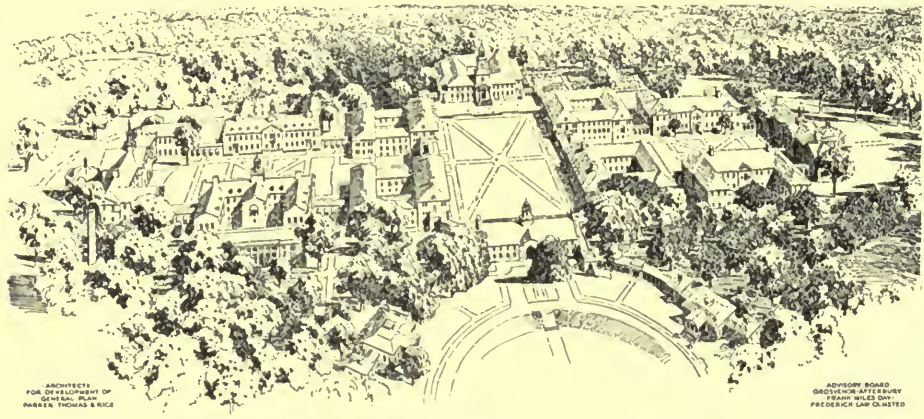
Anyone familiar with Baltimore, or who will look at a map of the city, will know that the present situation of Johns Hopkins University is in the business center of the city. The new site is about two miles due north of the old, within the city limits, and in the choicest part of a section toward which the tide of fine residence building of the city has of late years most consistently set. It consists of one hundred and fifty acres of land, fifteen of which is held back temporarily from the university as a life trust in an estate, and was presented to the university largely through the generosity of the late William Wyman, a public-spirited citizen of Baltimore. The tract which

he donated has been enlarged by various individuals, notably William Keyser, Samuel Keyser, Francis M. Jencks, William H. Buckler and Julian LeRoy White, —names long associated with Hopkins development.

It is a beautiful rolling stretch of land containing many fine forest trees and the entire western and southern boundary has been developed by the city, with an appreciation of the coming of the university, as a public park known as Wyman Park. The eastern and most important boundary of the tract is Charles street, Baltimore's most historic thoroughfare, and the northern boundary is the "Boulevard," the city's newest and most elegant suburban artery. Charles

pointed, consisting of Walter Cook, of New York; Frederic Law Olmsted, of Boston, and J. B. Noel Wyatt, of Baltimore, and under its guidance all of the initial work of the university was done. During the progress of the preliminary planning Messrs. Wyatt and Cook had become executive architects, so, in 1911, the advisory board was reorganized to consist of Messrs. Frank Miles Day, of Philadelphia; Grosvenor Atterbury, of New York, and Frederic Law Olmsted, of Boston, and this is its present composition.

To this board has been entrusted the important task of general supervision and of preserving harmony in the buildings through the course of the years.



GENERAL VIEW OF HOMEWOOD, THE NEW SEAT OF JOHNS HOPKINS UNIVERSITY, BALTIMORE.

street, also, has been widened and parked and on this street at the entrance to Homewood has been placed a "circle." Roughly, the whole tract is in the shape of an elongated hexagon of approximately equal angles, Charles street occupying the lengthened eastern side, the "Boulevard" the adjacent shorter side to the north, and Wyman Park all of the rest of the figure.

We find, then, that in 1902 the university fathers possessed this beautiful and ideally located tract of land. On it was standing Homewood, the old Carroll homestead, one of the most delightful of Maryland's survivals of the Georgian period of building. The work of development commenced. An advisory board of architects was ap-

Under the guidance of their advisers the university authorities in 1904 opened a competition to five well-known firms of architects, and the plan of development submitted by Messrs. Parker and Thomas, of Baltimore—now the firm of Parker, Thomas and Rice, of Baltimore and Boston—was approved as best and accepted. This plan had as its structural motif the design of Homewood, the old building from which the estate took its name; and it was felt that not only was Georgian architecture peculiarly appropriate to the site of the university, but lent itself extraordinarily well to the development of a university group of buildings.

The advantages of the Georgian for a university group, as conceived by the



VIEW FROM HOPKINS OVAL, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.

university authorities and advisory architects, may be summed up briefly as follows: It is beautiful, it is dignified and restful; it lends itself well to combination with other buildings of the same character; it gives square rooms and no loss of floor space; it provides for ventilation and lighting; and, last of all, it is cheap and durable from the standpoint of construction.

The proportions and decoration of Homewood—the building—were carefully studied and preserved as far as possible in the plans of the new buildings, the proportion of window space to floor space only being changed so as to give ample light. The windows of the new buildings of Hopkins bear a constant relation to the floor space of one to six. So carefully have the interesting exterior features of Homewood—the building—been preserved that the main entrance of Gilman Hall, the principal building of the group, is an enlarged version drawn to scale of the portico and entrance to the old home. So much for the spirit of the new Johns Hopkins group.

The years of planning were not without work of constructive emphasis. A careful topographical survey of the grounds was made which was the base of a map of a scale of 40 feet to an inch, with one foot contours, in which the location of trees was closely indicated. The fine old woodlands of the estate were carefully studied by F. W. Besley, State Forester of Maryland, and many of the unhealthy, old and unsightly trees were removed to make way for a healthy young stand. With the accurate location of the sites of the various projected buildings of the school such landscape gardening as was conceived to be necessary was undertaken, with the idea in mind of endeavoring to develop the natural beauties of the grounds, and as far as possible to keep them in a state of nature. There has been little effort toward formal landscape gardening.

The requirements of the university in buildings were carefully set forth in the specifications which the university authorities adopted, after anxious consideration, and promulgated when asking for submission of plans, and it is instructive to know what these buildings were, and to consider how they were disposed with regard to each other in the architectural arrangement which at last won the approval of the authorities.

First of all, the requirements of the university in buildings were conceived to be as follows: 1, An academic building, Gilman Hall; 2, a chemical laboratory; 3,



INTERIOR OF MAIN COURT, LOOKING TOWARD ACADEMIC BUILDING, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.



THE ACADEMIC BUILDING, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE. PARKER, THOMAS & RICE, ARCHITECTS.



THE ACADEMIC BUILDING, FROM SUBSIDIARY TRIANGLE TO THE SOUTH—JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE. PARKER, THOMAS & RICE, ARCHITECTS.

a geological laboratory; 4, a biological laboratory; 5, a physical laboratory; 6, a heat, light and power plant; 7 and 8, dormitories and a dining hall; 9, a mechanical and electrical engineering building; 10, a civil and mining engineering building; 11, a gymnasium; 12, a student hall; 13, a classroom building; 14, a memorial building and chapel; 15, a president's house; 16, a faculty club; 17, an assembly hall; 18, an administration building; 19, an astronomical observatory.

Now, how were the conditions implied in this list met and developed into an acceptable plan? First of all, the entrance to the university grounds was fixed on Charles street, about midway up the eastern side of the grounds. Here stood Homewood, the tonal key of the new group, on a little eminence of ground about fifteen feet above the level of the street. At this point, then, was established a graded semi-circle, "The Bowl," as it has come to be known in Baltimore, with Homewood on the right of the rim. Opposite Homewood is to be built the president's residence, a structure similar in exterior detail to the former, which is to be used probably as the Faculty Club. Between the two is planned the Administration Building, with an arched gateway in the middle, giving access to the main quadrangle. Connecting the Administration Building and the two structures adjacent to it are colonnades set on the edge of The Bowl.



DETAIL—ACADEMIC BUILDING, JOHNS HOPKINS UNIVERSITY.

Standing at the entrance of the main quadrangle to-day one sees directly ahead over the level turf the springy, beautiful facade of Gilman Hall, in which are to be housed the library and the "humanitarian," or non-laboratory, apartments of the university. The quadrangle is flanked by four Laboratory Buildings; Physics and Geology, on the left; Chemistry and Biology, on the right. All of the buildings of this quadrangle are connected by tunnels and arcades, which are particularly effective architecturally and which allow passage from one to another without exposure to the weather.

Between the Laboratory Buildings on either side of the quadrangle are broad brick and marble colonial stairs, which lead to quadrangles of lower level than the first. Standing at the head of the steps, which lead to the southern, or left, of these subsidiary quadrangles, one finds one's self gazing upon the Engineering Buildings of the university. Upon the small quadrangle, to the north, are to be found undergraduate buildings, the vista being closed by a student hall.

To the rear of Gilman Hall, but not discernible from the main quadrangle, are situated the Botanical Laboratories and garden, the latter in a fine state of cultivation.

The heat, light and power plant of the group has been placed back of the Mechanical Engineering Building.

In the extreme northern corner of the grounds is the athletic field, and near it to the south is planned the gymnasium.

The dormitories are to lie between the athletic field and the main group of buildings, but distributed parallel to, and not far from, Charles street, which is their most convenient exit from the school. In the scheme of architecture the dormitories form a connecting link between the group of buildings planned for work and the recreation group—including the gymnasium and athletic field.

The axes of the university plan are parallel with and perpendicular to Charles street.

Passing from a consideration of the

general plan to individual developments thereof, it may be said that a visitor to Homewood at this time would find much accomplished, much under way, and much still in the void. The grading has practically all been done. The general progress of the whole development may be briefly summarized as follows: Homewood completed one hundred years ago; the Academic Building, Gilman Hall (library and seminaries) finished and to be occupied probably next term—the library to be moved to its new home probably during the summer months, Chemical Laboratory, site prepared and plans ready for bids; Geological Laboratory, site prepared and preliminary plans ready; Biological Laboratory, to be started; Physical Laboratory, site cleared and bids soon to be invited; Mechanical and Electrical Engineering Building, completed and in use since last October; Civil-Mining Engineering Building, ground broken for construction, expected to be completed during this year; heat, light and power plant, completed and in use; botanical laboratory and gardens, completed in 1908 and in use since then; athletic field and stands, completed and in use for several years. All of the rest of the program of the school has yet to be accomplished, but the ground work in all has been done.

A visit to Gilman Hall, the dominant member of the principal group, reveals many ingenuities of construction and novelties of design in addition to beauty and simplicity of exterior. Its aspect at the head of the quadrangle, which one faces when entering the grounds of the new university, has been aptly summed up by M. Llewellyn Raney, librarian of Johns Hopkins: "Here is the Carroll mansion's prophecy come to fulfilment. Homelike, simple, dignified, preserving the old portico multiplied by two, it is at once marked as the capitol of the campus by the clock-tower, which rises 120 feet from the ground level, inevitably carrying one's mind back to Independence Hall."

It is an ample and logical development of the theme of the whole university group.

In cubic feet Gilman Hall is three



BOTANICAL LABORATORY FROM NORTH COLONNADE OF ACADEMIC BUILDING.

times the size of one of its laboratory neighbors and about one-half again as large as McCoy Hall, the member of the old university group whose place it is destined to fill. Its great bulk, however, is effectively concealed in front by having one story and a half buried and both corners recessed to a width and depth of 20 feet, except for one story stair-halls. Thus, though the falling ground to the rear gives the service of four floors, the front elevation appears



GLIMPSE THROUGH SOUTH COLONNADE OF ACADEMIC BUILDING.



DETAIL—MAIN READING ROOM, ACADEMIC BUILDING, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
Parker, Thomas & Rice, Architects.



NORTH WING OF MAIN READING ROOM, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
Parker, Thomas & Rice, Architects.

to be that of a two-and-a-half-story structure. It takes but a judicious planting of trees to give an apparent frontage of 164 feet (which is almost exactly the depth of the building) as against the wing-to-wing measurement of 204 feet.

The general arrangement is that of a hollow square with additions to every side—portico in front, shallow wings to north and south, and semi-circle at the rear. The lowering of the facade has had the further advantage of having made the main entrance to what is practically the second floor of the building, so that one need ascend or descend but one flight of stairs to reach the other two floors.

Entering the building from the front, the square vestibule leads directly to a chamber 28 feet by 59 feet, the decorative entrance room of the building—probably to be furnished as the Daniel C. Gilman Memorial Room. With windows overlooking the court, a fireplace on either side, this room offers excellent opportunity. Over the fireplace to the left is to be placed a large portrait plaque in low relief of President Gilman, Hopkins' first chief executive, for whom the building is named.

A generous corridor with niches for busts and sides free for display or decoration leads across the court to the reading room. Stretching the full width of the rear of the building, this room has a floor area of more than 6,000 square feet. Its odd proportion, great length and shallow depth, is saved from objection by the fact that it falls into three parts, the two end portions having another story above them, but the central portion, not thus affected, being covered with an arched roof. It expands westward into a semicircle overlooking the botanical garden. The windows are set high above the floor to facilitate the disposition of the shelves and the radiators are recessed. There is shelf space in the room for 15,000 volumes of ordinary proportion and 500 periodicals. In the center is the desk for the attendant and two doors directly under his observation lead to the stack rooms.

The stack rooms can be completely isolated from the rest of the building by means of fire-doors, easily swung to, thus giving this part of the building as nearly as possible the qualities of a fireproof vault. This does not mean that if Gilman Hall were to be completely consumed the books would not suffer, but it does mean that as far as human ingenuity can provide they would be protected. The stack rooms are built on their own foundations, from the ground up, thus insuring solidity to the frame-work of the shelves, which is of steel and of continuous piece from the foundations.

An unique feature of the Hopkins library has been its system of departmental libraries. These are cozy corners, cubby-holes in the library which can be secluded and in which books of one department are kept,—"segregated" as the students have it. This plan has been preserved and developed in the new library. An inspection of the floor plans of the building will show that the stack rooms are flanked by corridors, on the far side of which are class-rooms and professors' offices. Very well, then, on the library side of the corridor have been arranged the books which the corresponding classes use in their work. It is a very simple matter for the classes to pass across the corridor through departmental doors to the privacy of the room provided for them by their own stacks. All other entrances to the stack rooms are arranged so that they can be controlled from a single desk on the first floor. One librarian, therefore, can control all of the stacks in use.

Measurement disclosed the fact that there were five miles of shelving in McCoy Hall,—the old library home. In Homewood ten miles of shelving have been provided.

The distribution of space to the class-rooms has been equally generous. There are twice as many undergraduate class-rooms at Homewood as in the old quarters and these range in size from 240 to 1,200 square feet floor area. There is a 550 square foot seminar room for each graduate department,—and, in four cases, two of them. There is a 12 feet by 20 feet office for every officer and instructor.



GEOLOGICAL LABORATORY, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
Walter Cook and Winthrop A. Welch, Architects.

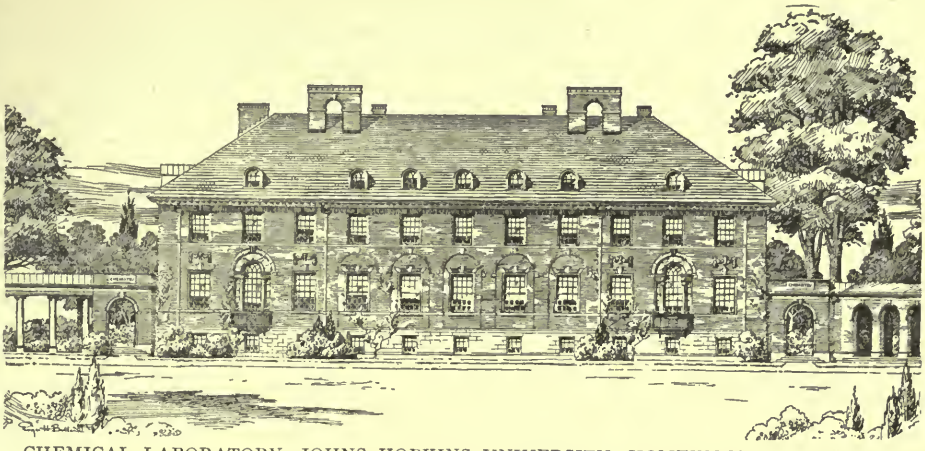
The floor of the main reading-room has been laid with cork, but the floors throughout the rest of this part of the building and of the book decks are formed of terrazzo, which is durable, reasonably quiet and exceedingly solid to the feet.

The most frequently used entrances to Gilman Hall are expected to be those at the northeast and southeast corners of the building, approached along the sides of the quadrangle. Teams, of course, will not be allowed in the quadrangle, so an entrance for them has been made from the rear and through a tunnel in the front of the building which will make possible the delivery of supplies at a point where they can be distributed quickly and with a minimum of effort to any department.

From the rear of Gilman Hall and to the north may be seen the botanical laboratory and garden, the former a long, low glass building of no unusual features but carrying out in its aspect the general theme of the university buildings. The garden is a square of ground one hundred yards on a side set unsymmetrically to the axes of the grounds. In its plan it differs from most botanical gardens in that it is quite formal, this arrangement being thoroughly in harmony with the Georgian spirit. The outline of the garden as a whole is marked by hedges of hemlock. It contains seventeen beds bordered with myrtle and separated one from another by well-kept cinder walks. The compact plan gives a large amount of bedding space in which there is accommodation for over 2,000 shrubs or clumps of herbaceous plants.



PHYSICAL LABORATORY, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
Wyatt & Nolting, Architects.



CHEMICAL LABORATORY, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
Carrère & Hastings, Architects.

Passing from Gilman Hall to the Mechanical and Electrical Engineering Building one finds the same careful planning that marks the former structure. The Engineering Building, it may be well to note, is one of two buildings to be built by State of Maryland appropriation and forming part of a new department (or, more exactly, a revived department) of the university.

The shop-room is a large and airy enclosure, running the whole width of the rear of the building, with steel skeleton windows and 200-ton travelling crane. Its walls are faced with semi-glazed brick which will not absorb grease and which will reflect light in all directions. The concrete floor is provided with channel irons to which pieces of apparatus can be fixed, thus doing away with the necessity for tearing up the concrete floor to provide a firm base every time a fixture is moved to a new location. This is all in accordance with modern shop practice.

In the heat, light and power plant, visited next, the perplexing heating and lighting problems which confronted the designers of the Homewood group have been attacked and the building contains many additional small features of design not ordinarily associated with structures of this character. As an instance of this latter feature, several different types of engine have been installed in the dynamo room, though all do the same work, in order that students in the engineering department may have opportunity to observe these different types of engine at work. The smoke stack has had built upon it at different levels two platforms with observation tubes through the stack so that students may be able to make smoke and other tests. All of the water used in the boilers may be passed over scales so that its quantity can be accurately determined, and it comes from the condensers to other scales so that it may be once more measured. It is hoped that much illuminating research work may be done in the power building while it serves its own humble purpose of keeping the other buildings warm and lighted.

One of the engineering features in connection with this part of the university that will attract attention is the concrete tunnel going from this plant to every part of the grounds and conveying the steam pipes and electric wires which will carry heat, power and light to the various buildings. This tunnel is of sufficient height for two men to comfortably walk through it abreast at any point; the wires, tubes, and pipes which it contains are always accessible and there will never be necessity for tearing up the grounds to reach some hidden leak or trouble.

At the far northern corner of the Homewood tract is the athletic field which contains a quarter mile track and a 220 yard straightaway, a lacrosse or football ground, base-ball diamond and tennis



MECHANICAL AND ELECTRICAL ENGINEERING BUILDING, JOHNS HOPKINS UNIVERSITY, HOMEWOOD, BALTIMORE.
J. E. Sperry, Architect.

courts, in addition to the customary dressing rooms. Two large concrete stands for spectators have been erected and a site has been arranged for a third if these should prove incapable of accommodating the crowds.

The dormitories have been planned on the individual unit system, with accommodations for 250 students in a unit.

In addition to having established the key for the university group and having made the general ground plan of development, Parker, Thomas and Rice designed Gilman Hall, the heat, light and power plant and are developing the plans for the Administration Building; the Chemical Laboratory was designed by Carrère and Hastings, of New York, an unique feature of this building being a system of open drains and individual hood exhausts over the separate chemical desks; the Physical Laboratory by Wyatt and Nolting, of Baltimore; the Geological Laboratory, by Walter Cook and Winthrop A. Welch, of New York; and the Engineering Buildings by J. E. Sperry, of Baltimore.

In the development of the Homewood group its architects seem to have found a peculiarly congenial theme and the animation and interest which they have shown therein is evident in their work as now physically set forth. The future development of this fine group will go on with more or less speed as the finances of the institution are plethoric or lean and empty. At all events, the right note has been clearly struck and Hopkins has laid out a work thoroughly consonant with her high ideal and inheritance.

# ROMAN ARCHITECTVRE AND ITS CRITICS

By A.D.F.HAMLIN

## PART II — The DEFENCE

IN a previous paper I have set forth the counts of the indictment which certain critics have brought in against Roman architecture. I propose in this paper to present the defense. I shall first of all demur to the indictment as being based not on sound reasoning from the facts, but on prejudice and mere traditions. Secondly, I shall endeavor to expose the contradictions in the testimony of the critics. I shall then, thirdly, answer to each of the five counts of the indictment, and shall close by presenting what I believe to be a fair and unprejudiced estimate of Roman architecture as a whole.

I.

Prejudice, in architectural criticism, is not the mere preference of one style over another. That is in itself both natural and legitimate. When, however, the preference is based on inadequate data, and takes on an intensity of hostility that blinds the critic to the real merits of the less-esteemed or disesteemed style, it degenerates into, as it springs from, unreasoning prejudice. It betrays itself in violence of language, in the refusal to concede merits which are conspicuous to the impartial observer, or at least in the rejection of the favorable conclusions which one might infer from the praise which they grudgingly bestow upon undeniable excellences. All these evidences of prejudice appear in the critics of both the ultra-Hellenic and the ultra-Gothic groups; violent language, in many of the passages I have quoted; blindness to obvious merit, as I shall later show; refusal to recognize the significance of their own grudging praise, as will appear in the contradictions between their own testimonies in the next section.

That this prejudice, this hostility to all Roman forms of artistic expression, this reluctance to concede to Roman architecture any of the higher qualities, spring largely from a mere tradition of criticism, any careful reader must, I think, conclude who studies the literature of the Greek and Gothic revivals in England. I have already pointed out that these movements were intellectual and sentimental rather than artistic movements. During the first half of the nineteenth century the habit became general of disparaging Roman architecture as compared with the Greek and the Gothic; but that the Greek revival was hardly the spontaneous expression of a deeply esthetic spirit let the British Museum and the "National Monument" at Edinburgh testify! That the early Gothic revivalists came no nearer to a true artistic inspiration is witnessed by the distressing inanities to which they gave being. Yet the Gothicists of that day disparaged the "pagan" architecture of Rome by comparison with their own petty ideals of the Gothic, even more contemptuously than did the Hellenists by comparison with their inadequate conceptions of Greek architecture. The truth is that in those days there were few or none who possessed any deep understanding of architecture itself, and it is very clear that few of them had grasped the real significance and inner spirit and content even of the styles which they praised. It is this Early Victorian tradition of depreciation of Roman art which the anti-Roman critics of our own day have inherited and perpetuated, ignoring all the wider and better knowledge we now possess of the Roman achievement, and refusing to yield to the testimony of the monuments themselves. Today there are broader views and a better understanding of what architecture really is than was the case fifty years ago. Books



FIG. 7. THE BRITISH MUSEUM, LONDON. FAÇADE TO RUSSELL SQUARE.

and photographs and travel have made us better acquainted with the works of all the styles. Is it not time that intelligent persons who write on architecture should open their minds to all this new light? Can we not discard the outworn apparatus of Early and Mid-Victorian criticism, and form our judgments upon the evidence that is spread before us?

II.

The critics whom I have quoted repeatedly contradict their own adverse judgments. The virility, majesty and daring originality of many Roman works, and the exquisite beauty of some of them, extort praise which is all the more sincere and certainly the more significant for being so reluctant. Fergusson, after declaring that the Roman "haste to enjoy" seems incompatible with the production of great architecture, confesses that "there is a greatness in the mass, a grandeur in the conception, and a certain expression of power in all these Roman remains, which never fail to strike the beholder with awe, and force admiration from him despite his better judgment." But why "despite his better judgment"? Why is it a worse judgment to yield to the natural and inevitable emotion kindled by these works? Before the huge mass of the Roman ruins unadorned in naked grandeur "criticism is disarmed," he says, "and the spectator stands awe-struck at its majesty."* Of the Coliseum he says, "It is worthy of all or nearly all the admiration of which it has been the object," and produces "an effect against which the critic struggles in vain."† Poor struggling critic—but why struggle? Why not drop the shackles of a narrow tradition and yield ungrudgingly to the enthusiasm which that mighty work inspires? Again, on page 296 of the same work we read of the Pantheon and Temple of Peace (by which the author means the Basilica of Constantine) that they "are to this hour unsurpassed for boldness of conception and justness of appreciation of the manner in which the new method ought to be applied."

Mr. Sturgis indulges less than some modern critics in hostile animadversions on Roman art; but he frequently alludes to "bad taste," "clumsy arrangement," "deliberate copying and imitation of Greek models" and the "sham architecture" of the Roman columnar arcade. Nevertheless he is compelled to admit, in specific cases, careful design and finish, conscientious execution, elegance and beauty of detail. The round temple at Tivoli "must have been the work of a designer possessed of great independence of spirit." The interior of the Pantheon has "an ineffable charm," "there is no interior in the world more impressive;" and its entire design and scale seem to justify that decorative use of the columns and entablatures which in other places the author decries or condemns. In his *History of Architecture* (Vol. I, p. 382) he admits that "men of truly artistic and truly refined sense of design" admire the Roman achievement of vastness, grandeur and splendor in the service of utility even when it lacks the delicacy and refinement of Greek design. The Roman stucco-decorations "are so marvelous that it is worthy of a special study to examine, date and classify them." Chapter VII of this volume is chiefly devoted to these works, which are praised for "the surpassing excellence of the modeling and the artistic conception," "for their effective simple decoration" and like qualities. He declares that the relief sculpture of the Romans, from Augustus to Trajan, "reached an approximate perfection reminding us of Greek work of a good period," and that "the very refinement of curve and the delicacy of relief which we fancy foreign to ancient Roman ideas of splendor are, after all, of imperial Roman origin" (p. 425). Mr. Statham, in spite of his severe strictures upon many features of Roman architecture and his assertions of its inferior taste and deficient originality, recognizes the exceeding beauty of the Corinthian order and the majesty and excellent planning of the great works of the Romans. And even Mr. Porter, for whom the adjectives vulgar, dreary, pretentious, blatant and cut-and-dried, and the nouns sham, coarseness, pomposity and blatancy hard-

*History of Architecture in All Countries, Vol. I, 294.
†Op. cit. I, 326.




FIG. 9. TEMPLE OF VENUS, POMPEII. DETAIL OF ORDERS. FROM A FRENCH DRAWING.



FIG. 8. CORINTHIAN ORDER OF TEMPLE OF CASTOR AND POLLUX. FROM CAST IN WILLARD COLLECTION, METROPOLITAN MUSEUM OF ART.



FIG. 10. INTERIOR OF THE PANTHEON, ROME.

ly suffice for his characterizations of Roman architecture, is constrained to acknowledge some good in it. To the imitation of Greek models, he says, "the Roman genius added certain new and original features of its own." "Architectural construction the practical Roman developed to a point far ahead of anything that had hitherto been reached." In another passage he declares that the Roman groined vault was the parent of medieval architecture, and that no other structural invention of any age can outreach it in importance. Reber considers that "in Roman architecture are found great intelligence in the solution of the constructive problem involved in the enclosing of large spaces, great independence in the development of technical perfection, and a masterly conformity to the purpose of the structure."

Thus not only the judicious critics and the mildly hostile, but even the most rabidly anti-Roman are compelled, reluctantly sometimes, "struggling" and "in spite of their better judgment" to admit in Roman architecture substantial merits, fundamental excellences of a very high order, in the light of which the violence and satirical hostility of their language in other passages appear quite uncalled for. When a critic on one page calls the Corinthian order the "most blatant" of all the orders, but on another implies that the Corinthian capital is the most beautiful of all capitals, what are we to think of his fair-mindedness or his consistency? Another, who insists repeatedly on the utter lack of originality of the Romans, can only say in support of this contention when brought face to face with the superb double temple of Venus and Rome: "All this, except the building in mortar-masonry and the idea of a vault"—rather important exceptions, one is tempted to remark—"might have occurred to a Greek. Perhaps it did occur to some of the engineers employed by the successors of Alexander." "Might have occurred," "perhaps did occur." What sort of critical reasoning is this? By similar reasoning applied to *Hamlet* any one may effectually dispose of all claim to originality in any of Shakespeare's works. I could multiply instances of similar contradictions and inconsistencies. It would seem to the simple-minded reader who has not been brought up, on a diet of traditional Early and Mid-Victorian criticism, to regard everything Greek as supremely perfect, and everything post-Hellenic and pre-Gothic as debased and vulgar—it would seem as though such important admissions by the witnesses for the prosecution tended to invalidate fundamentally a large part of their hostile contentions.

III.

Let us now take up seriatim the counts of their indictment.

The first of these* alleges the absence of the higher qualities of design—purity, refinement and good taste, and the prevalence in their stead of vulgarity, coarseness and pompous grandeur.

This charge is partly true and mostly false. It is one of those sweeping assertions which uncritical critics delight in making, and which have just that modicum of foundation in fact that makes them plausible to the unwary reader. Some of the special and particular refinements characteristic of Greek architecture at its best are not characteristic of the Roman work even at its best, at least in the same degree. The profiles of the Roman moldings are less subtle than the Greek, and optical refinements like those of the Parthenon are less frequent and less highly developed in Roman than in Greek work. But no one who makes a careful study of Roman architecture as a whole, or of its details, will allow this admission to be stretched to the denial of refinement and good taste in a large part of the really notable works of the Roman builders. Indeed, one may go so far as to assert that one of the evidences of their good taste is the very fact of their modification of the subtle curves of the Greek molding profiles to adapt them to the very different types of design in which they are used by the Romans. Most of the Roman moldings are enriched by carving, in which subtilities of profile become less important or disappear; the strong, full curves of the Roman profiles are far better suited to such enrichment, and to the particular combinations in which they occur, and to those effects of power and grandeur and scale which are

*See Architectural Record for last month.

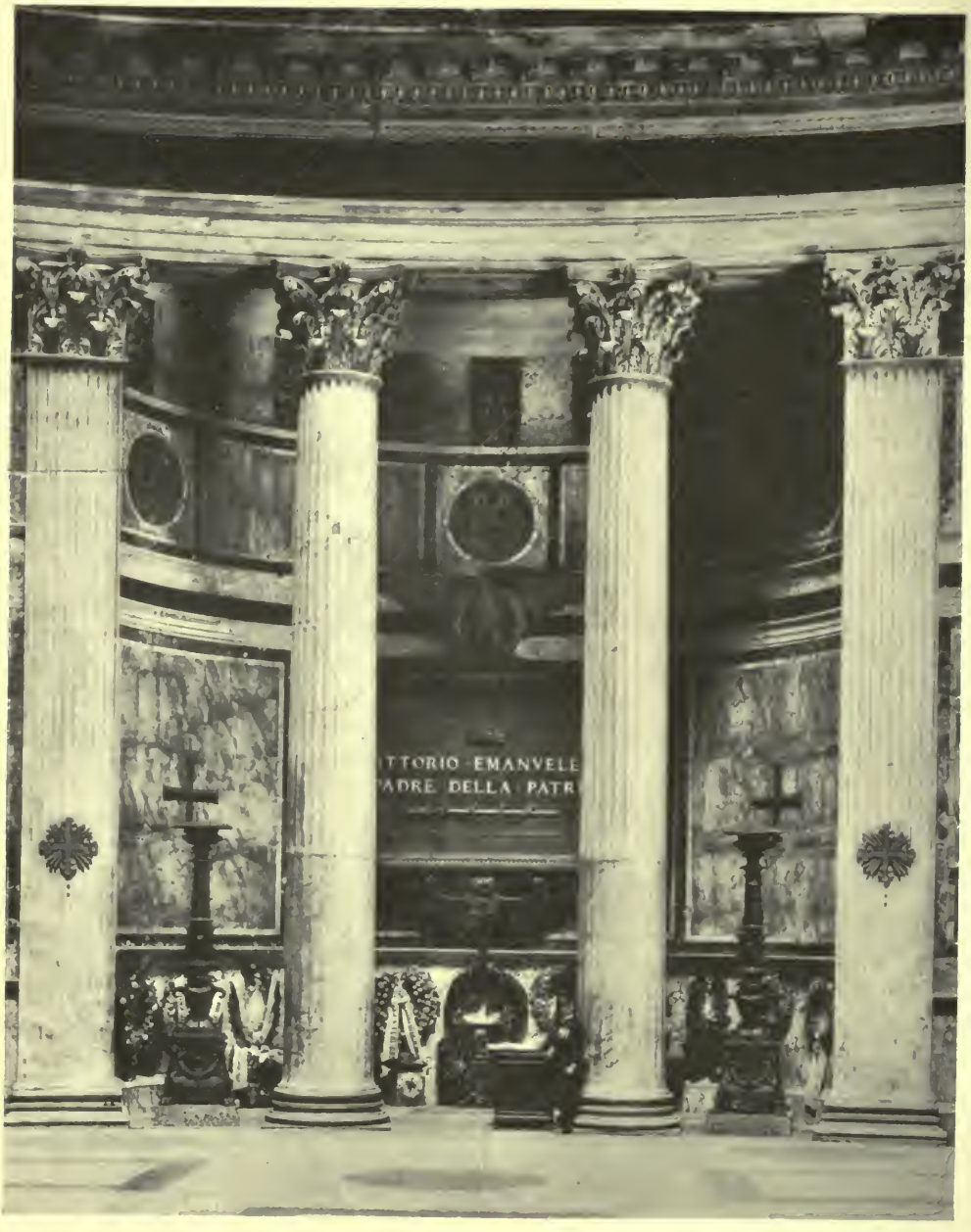



FIG. 11. DETAIL OF ONE OF THE NICHES IN THE PANTHEON, ROME. SHOWING ALSO TOMB OF VICTOR EMANUEL.

the glory as they were the aim of the Roman designers, than the Greek profiles. For nearly two thousand years architects have been designing moldings, cornices, archivolts, bases, capitals and entablatures, without being able to improve in any great degree on the Roman combinations and sequences of moldings. The medieval moldings, which are neither Greek nor Roman, we may omit from present consideration because they belong to a fundamentally different style, and would be equally out of place on buildings of the Greek and of the Roman type.

Moreover, there are important categories of Roman design in which a very Hellenic sort of refinement is notably present. In much of the Pompeiian work, which is, like so many of the Greek buildings, modest in scale, there is observable a remarkable delicacy of design, a sensitive feeling for profile, for detail, for relief and for color, which impart to it a peculiar charm. All the buildings of the like class and date (with a few exceptions) in Rome itself have perished, and we can judge of their quality only by the "House of Livia," on the Palatine, some tombs on the Via Latina, and some stucco reliefs in the Museo delle Terme and the Baths of Titus. But as these show the same qualities as the Pompeiian examples in even higher degree, we may infer that in their buildings of more modest purpose and dimensions the Romans displayed everywhere many of those higher qualities of taste and refinement which they are so often declared to lack. I have already quoted Mr. Sturgis' enthusiastic characterizations of the Roman stuccoes, and admission of the Hellenic beauty of many of the Roman decorative reliefs. I believe an appeal to the monuments, could we only see them as they once stood, complete in their original environment, would convince every impartial reader that in even the grandest, the most pompous, ostentatious and majestic of them, the Temples of the Sun, of Venus and Rome, of Castor and Pollux, there is to be found an element of high refinement, and evidence of a true and pure taste, which the critics often have refused to concede. A "rendered" elevation of an entablature gives little real conception of its true qualities; and most of the literary and Hellenistic critics appear to have studied only drawings on paper and not the buildings themselves. That is to say, they have, through lack of trained imagination, been unable to reconstitute the building mentally from the drawings and, placing it in its proper environment, to judge it as one judges an extant building to-day. Let one study even the cast of the capital and entablature of the Temple of Castor and Pollux in the Metropolitan Museum at New York,* where that fragment is lifted to its proper height from the floor, and one discovers that this composition which, seen in drawings is called "overloaded" with ornament, is really enriched with a most delicately beautiful frosting of carved detail. Its "magnificent," "pompous," "blatant" capital and cornice, seen in their proper place, become exquisite in the perfection and refinement of their design. What must the whole temple have been! and what the Forum and the whole group of fora, with their temples, arches, basilicas and statues! The more one studies the Roman detail, the Roman handling of scale, the Roman conceptions of design, the more one is impressed with the absurdity of the idea that refinement and good taste cannot coexist with grandeur, splendor and even an overwhelming magnificence. The Pantheon, bereft of the finer adornments of the huge coffers of its mighty dome, remodeled, undoubtedly to its detriment in the eighteenth century in its upper portions, still offers the eternal refutation of that idea. One of the noblest of all interiors, almost overwhelming in its majesty, it is beautiful with a subtle charm of quiet refinement and faultless dignity which no artistically sensitive soul can deny. The Maison Carreé at Nîmes—the only other monument of Roman architecture in Europe which remains to our day in tolerable preservation—is one of the loveliest bequests of classical antiquity, and is rightly the admiration and delight of artistic souls by reason of those very qualities of refinement which attract them in Greek art.

*See Fig. 8, on page 497.



FIG. 12. CORINTHIAN ORDER, TEMPLE OF THE SIBYL ("VESTA") AT TIVOLI. FROM A FRENCH DRAWING (A. THOMAS).

Moreover, Roman architecture displays in an eminent degree three distinguishing qualities of the highest aesthetic value, possible only to designers possessed of keen artistic sensibilities: the qualities of perfect scale, proportion and relief. Every architect learns in the trying school of experience how subtle and elusive a thing scale is, that adjustment of dimensions in every member and detail to the dimensions of the whole, which shall produce the desired total impression without sacrifice of any of the parts. The Roman designers knew how to make such colossal compositions as the Pantheon and the vast halls of the thermae or of the Basilica of Maxentius and the Ulpian Basilica count to the full value of their imposing dimensions, by the scale of all their subordinate parts. Inseparable from this skilful handling of scale, in the second place, and equally remarkable in successful achievement, is the Roman treatment of proportion, the spacing of columns, the proportioning of superposed orders, the form and pitch of pediments, the relation of height to width of arches, and the still more important determination of the relative height, width and length of each part of their vast interiors. They very seldom erred in these relations; a very little experimentation will show any one who tries it how hard it is to improve any important Roman building by altering its proportions. And, thirdly, in the matter of carved ornament, it was the Romans, not the Greeks, who discovered and taught the world the secret of "varied relief," by which the subordinate features of a decorative composition are made less prominent than its more important parts, and minor elements of the design almost melt into the background, so that the general movement of the design asserts itself to the spectator at a distance by its strongly massed lights and shades, while as he approaches nearer and nearer, the smaller details become successively visible. Beside the strong, sharp, hard relief of the Greek carving, as seen at its best in the Erechtheion, for example, the tenderness and delicacy of much of the Roman carved ornament are particularly noticeable. This is seen not only in the exquisitely modeled stucco reliefs of the houses and tombs, but as well in the carved friezes, pilasters and panels of buildings of monumental size.

Of all these refinements the critics we are discussing take no note. The architecture they contemn is an architecture on paper, an architecture of lithographs and line engravings, not the architecture of Roman actuality.

IV.

The second count in the indictment alleges against the Roman architecture a plagiarism which travesties the forms of Greek architecture and misapplies them, thereby demonstrating a total lack of originality. This is based, of course, solely on the Roman "orders:" not even the most hardened anti-Roman Hellenist ventures to assert that either the planning or the construction of Roman buildings was copied from the Greek. The Romans are said to have adopted the Greek orders and then to have spoiled them by inartistic alterations and illogical applications of them to new uses. Those who reason thus are curiously blind to the absurdity of claiming that forms fundamentally altered are mere copies, and of charging lack of originality in the same breath with the allegation of radical modifications and entirely novel applications of the original types. The student of Roman architecture has good grounds for retorting that in nothing are the independence and creative power of the Roman genius more conclusively displayed than in the use they made of their orders, which they converted into vital constituent elements of a wholly new, progressive and marvelously flexible architectural system. As a matter of fact the only order they borrowed from the Greeks was the Ionic, which they used but sparingly. The Tuscan was the national Etruscan order, in common use long before the Greek conquests had familiarized the Romans with Greek columnar architecture. The Roman Doric column was not derived from Greece. It is singular that the traditional assertion that it was should have so long persisted. The typical Roman "Doric" column *resembles the Greek in no single feature,* but is plainly an elaborated ver-



FIG. 13. THE ARCH OF CONSTANTINE, ROME. FROM MODEL IN WILLARD COLLECTION, METROPOLITAN MUSEUM OF ART.

sion of the national Tuscan column. The triglyphs and mutules of the Doric entablature may, however, have been derived from Greece; but the appearance of triglyphs on the cenotaph of L. Scipio Barbatus, who died about 290 B. C., suggests the probability that they had been long known to the Etruscans, who derived not a few elements of their architecture from ancient traditions common to them and to the Greeks. The Corinthian order was almost wholly a Roman creation, based on a Greek original, it is true. But the Greek Corinthian was not a distinct order; it was a mere variant of the Ionic, from which it differed only in its high, bell-shaped and foliated capital. The base and the entablature which the Greeks used with it were purely Ionic. The capital had not been perfected into a permanent type by the Greeks; it was the Romans who gave it its final form, recognized by even captious critics as the most beautiful type of capital ever devised. The Romans designed for this column a new and distinctive base, and completed the order by the invention of the modillion cornice, for which Greek architecture offered no precedent whatever. The modillion comes as near being an outright invention as any architectural detail in the history of the art. It is one of the most brilliant innovations in history,* and the Corinthian cornice in the beauty and splendor of its effect, is the noblest possible crown for a building of classical design. In two thousand years it would seem that no one has ever designed anything finer for its purpose.

In their applications of the orders the Romans made striking innovations upon the Greek practice, by which they vastly increased the flexibility of the orders themselves, and the range of architectural design generally. By the superposition of the orders they made possible impressive compositions in several stories. Greek architecture is almost exclusively an architecture of one story. By the use of monolithic shafts of polished granite and marble they produced superb effects of chromatic decoration in noble materials without the use of perishable paint. By the introduction of pedestals they were enabled to keep the parts of an order to a given scale with an increased total height. They coupled columns with pilasters in their triumphal arches and forum walls, making the pilaster serve as a wall-respond, and thereby gained superb effects of light and shade otherwise unattainable. By these means, all of them original with the Romans, they produced an entirely new architecture different from the Greek in fundamental character, not merely in detail. To call this architecture a "copying" of Greek originals is as absurd as to call it a "travesty" of Greek forms. The architecture is neither copied nor a travesty. Even the porticoes, in which the columns are used for the same purpose as in Greek architecture, are as widely different from Greek porticoes as two columnar designs can ever be.

*A. K. Porter says of this epoch-making invention: "It occurred to some genius to clap both dentils and modillions on the same entablature." Yes, and so it occurred to a Genoese genius to sail West till he reached America.

V.

But the Hellenists and Gothicists who are not broadminded enough to admit the posibility that two styles of architecture which proceed by divergent paths toward diverse ideals are equally entitled to respect and admiration, now advance the third count of their indictment. "We will admit," they say, "that the Romans invented new applications of the column and entablature, but these applications are illogical and artistically improper. Engaged columns and entablatures applied to walls are a solecism, they are thereby diverted from their true structural function and made into mere ornaments; and of all these misapplications the least defensible is the marriage of the column and entablature with the arch. The combination of such heterogeneous forms, belonging to two distinct systems of construction, is wholly indefensible."

This sounds plausible; it has been so constantly repeated, so dogmatically insisted on, that the most intelligent layman is persuaded it must be true. Few have been the modern writers bold enough to try to breast the tide of hostility to this invention of the Roman designers, but protesting voices have begun to make themselves heard, at

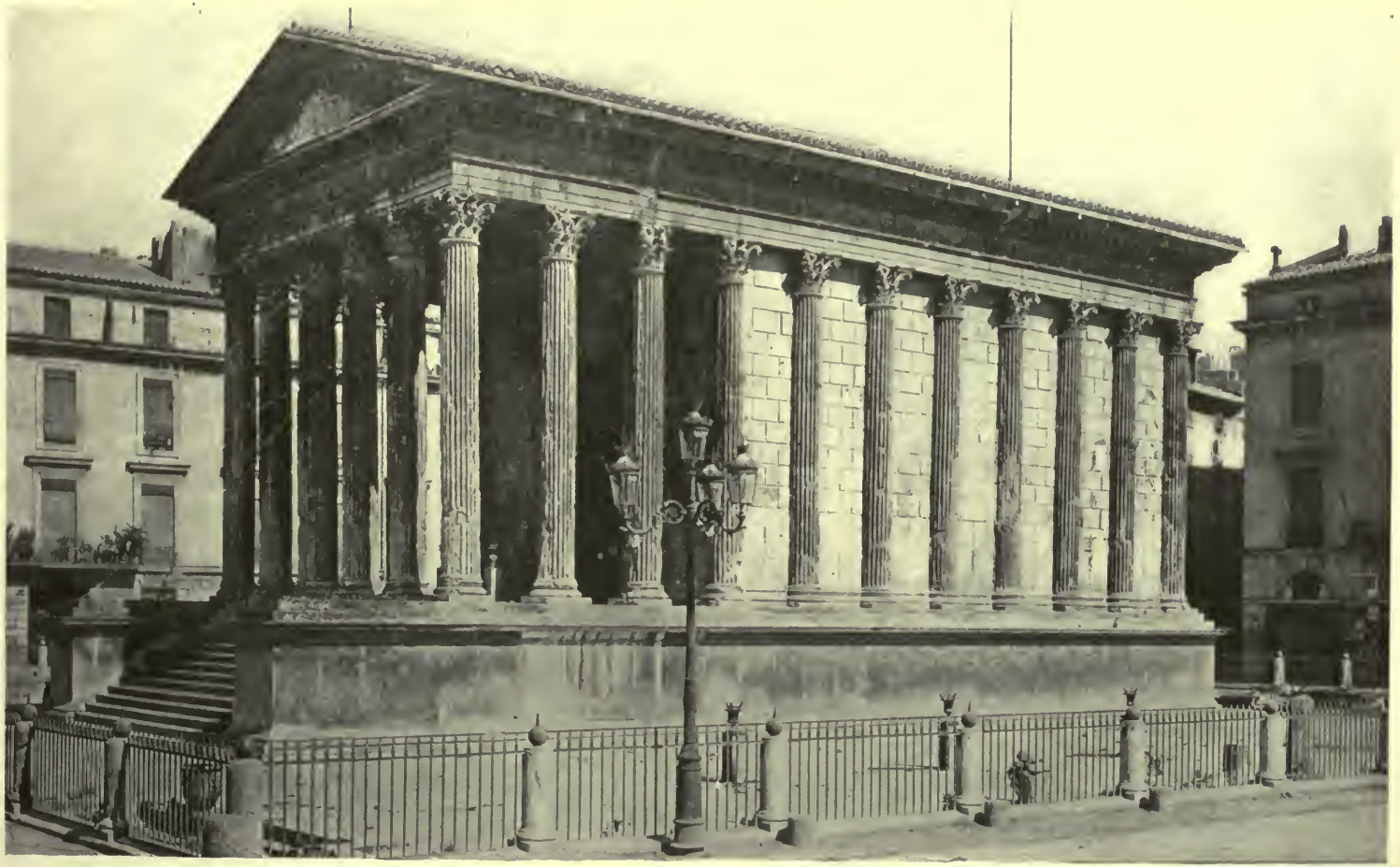


FIG. 14. THE "MAISON CARREE," AT NIMES, FRANCE.

least in England. Professor F. M. Simpson in his *History of Architectural Development* (vol. I, p. 111), and Sir T. G. Jackson in his recent work, *Byzantine and Romanesque Architecture* (vol. I, p. 10, 11), have each a good word for the Roman combination of arch and column; but what are they, *rari nantes in gurgite vasto,* among so many of the contrary opinion? The predominance of disapproval of this combination, among those who *write about* architecture, is all the more remarkable when one considers the equally strong predominance of approval among those who *make* architecture. In spite of the critics they persist in using it, as they have persisted in doing for at least six hundred years. The critics meet this fact only by a sweeping accusation of persistently corrupt taste. The practitioner laughs at the critic for a prig, insists on using the arcaded order because it is useful, convenient and beautiful, and asks what the critic would put in its place.

The common objection to this combination is that it is illogical because it applies structural members to a purely decorative use; a "sham," because the columns pretend to support an entablature which is really carried by the arcaded wall behind them; and "false" for both of the above reasons. But the decorative use of forms originally structural is a universal law of architectural progress. The triglyphs and the stone ceiling-panels of Greek architecture, the useless flaring capitals of the Egyptian hypostyle halls, the open-work gables and the wall-traceries of the developed Gothic style, are examples of the operation of this law in three different historic styles universally recognized as "truthful" and "sincere." Indeed, there is little excuse for the lateral colonnades of the Greek temples except their splendid decorative value; the Roman temple-builders got along without them in many cases, and in others frankly applied them as engaged orders against the flanks of the temple. In combination with arches in the theatres, amphitheatres and basilicas, the engaged orders, so far from embodying falsehood, serve to emphasize as no other device could, the fundamental facts of the interior divisions of the buildings into bays and stories, expressing vividly to the eye the lines of chief stress and support in their construction, and visibly reënforcing the piers which resist the thrusts of the internal vaulting. The columns perform precisely the same function—a purely esthetic one—as the vaulting shafts of Gothic cathedrals; they satisfy the eye by providing a visible support for what they appear to carry, and what without such apparent support would seem insecure, although actually carried in perfect safety by the masonry behind the column or shaft. Professor Moore, in his *Development of Gothic Architecture* and again in his recent *Medieval Church Architecture in England,* insists upon the structural logic of the vaulting shafts; but an analysis of the actual stress conditions of Gothic vaulted churches makes it clear that a corbel would suffice in their place; the shafts are purely supposititious necessities structurally, and might be removed with no danger to the edifice—which is precisely the objection which the Gothicists allege against the Roman arcade columns! Architecture on paper and in beautifully printed letterpress with persuasive illustrations sometimes follows paths that diverge widely from the architecture of real building and lead to surprising results.

VI.

The fourth allegation of the indictment, that which charges the Romans with starting architecture on a fatal path of false principles of design, which has been disastrous in its effect on modern architecture, I have in part answered in the preceding section; that part, namely, which relates to the decorative use of the orders and the combination of columns with arches. But there are critics who impugn the entire Roman system of structural design and decoration as false. The Greeks, they tell us, and the mediæval church builders, erected honest constructions of solid masonry, plainly revealed as such inside and outside alike. But the Romans always, and for mere appearance, built of coarse rubble or a species of concrete, and veneered this



FIG. 15. THE ROMAN AMPHITHEATRE, NIMES, FRANCE.

coarse and hasty construction with a veneer of stucco and marble, falsifying the cheap coarseness of the mass by a pretentious apparel of fine material. This has been the parent of the whole dismal succession of modern shams and pretense, to the corruption of modern taste and the destruction of honest design.

This, like all the other charges, has a plausible ring of superior artistic morality, until we examine the facts and implications behind it. The fundamental allegations are only half true. The majority of the Greek temples, for instance, outside of Attica where marble was abundant, were built of coarse stone which was covered and concealed by a coating of painted stucco. Both the vaults and the interior wall surfaces of many of the great medieval churches were plastered and painted. On the other hand, in those regions where fine building stone abounded, but where lime and pozzolana were scarce, as in Southern France and Syria, the Romans used pure cut-stone masonry as frankly as either the Greek or the Gothic builders did. The implications of this criticism, moreover, reflect seriously upon the Creator's honesty. For in the noblest of His works, the human form, a veneer of precious material—the exquisite color and texture of the skin—so covers the unpleasant materials and details of the interior construction of the body as to conceal them wholly from view. The beauty of this masterpiece of design is only skin-deep.

But the real answer to this criticism goes beyond these considerations. The charge of dishonesty is predicated upon the fundamentally erroneous assumptions that there is only one kind of good architecture possible; that architecture has only one system and principle of design legitimately at its disposal, and that hence if the Greek (or the Gothic) architecture is right in principle, all others proceeding on other principles must be wrong, and that a fundamental principle of good architecture must be the outward visible display of the interior structure and materials. But this is a narrow and pedantic assumption. Architecture is the servant of man, not his tyrant. The critic has no right to call upon the designer to abdicate common sense, to ignore the conditions and environment in which he works, to reject every species of beauty, every form of expression, which may be unattainable by the particular methods of Greek or Gothic design. The purpose of the architect must be to build beautifully, to meet the practical needs of his time by such means as he possesses with structures which shall be as beautiful, or as splendid, or as majestic as he can make them. This the Romans did with extraordinary success, with daring ingenuity, with marvelous boldness and originality. The vast and massive vaulted structures they erected could not have been built, except in the rarest instances, of cut stone, and the Roman use of the abundant local materials piled up by the labor of soldiers and slaves, of brick, stone and rubble-concrete, each where each best served its purpose, was the only rational and only possible procedure. It is perfectly legitimate for the critics to declare, to their hearts' content, their preference for the Greek or the Gothic type of design, but it is not valid criticism to deny the right of another to prefer the Roman, or at least to admire the Roman achievement. Each of these types and systems, growing up out of its own particular environment and conditions, was the best for its own purposes, time and place. One has a right to find fault with the Roman designs, details, composition or decoration, but each must be judged on its merits, with relation to the purpose, environment and conditions of the problem. And when the critic wants to generalize on a question like the aesthetic propriety of applied decoration, veneers of stucco and marble, non-structural use of structural features, he will do well not to throw too many stones at the Romans lest they reply to the injury of his own glass house; for he may find himself obliged to condemn all plastering, wainscoting, mosaic, tiling, decorative painting and sculpture, triglyphs, paneled ceilings, vaulting shafts, traceried gables and a dozen other important features of Greek, Byzantine and Gothic architecture, logically liable to the same condemnation.

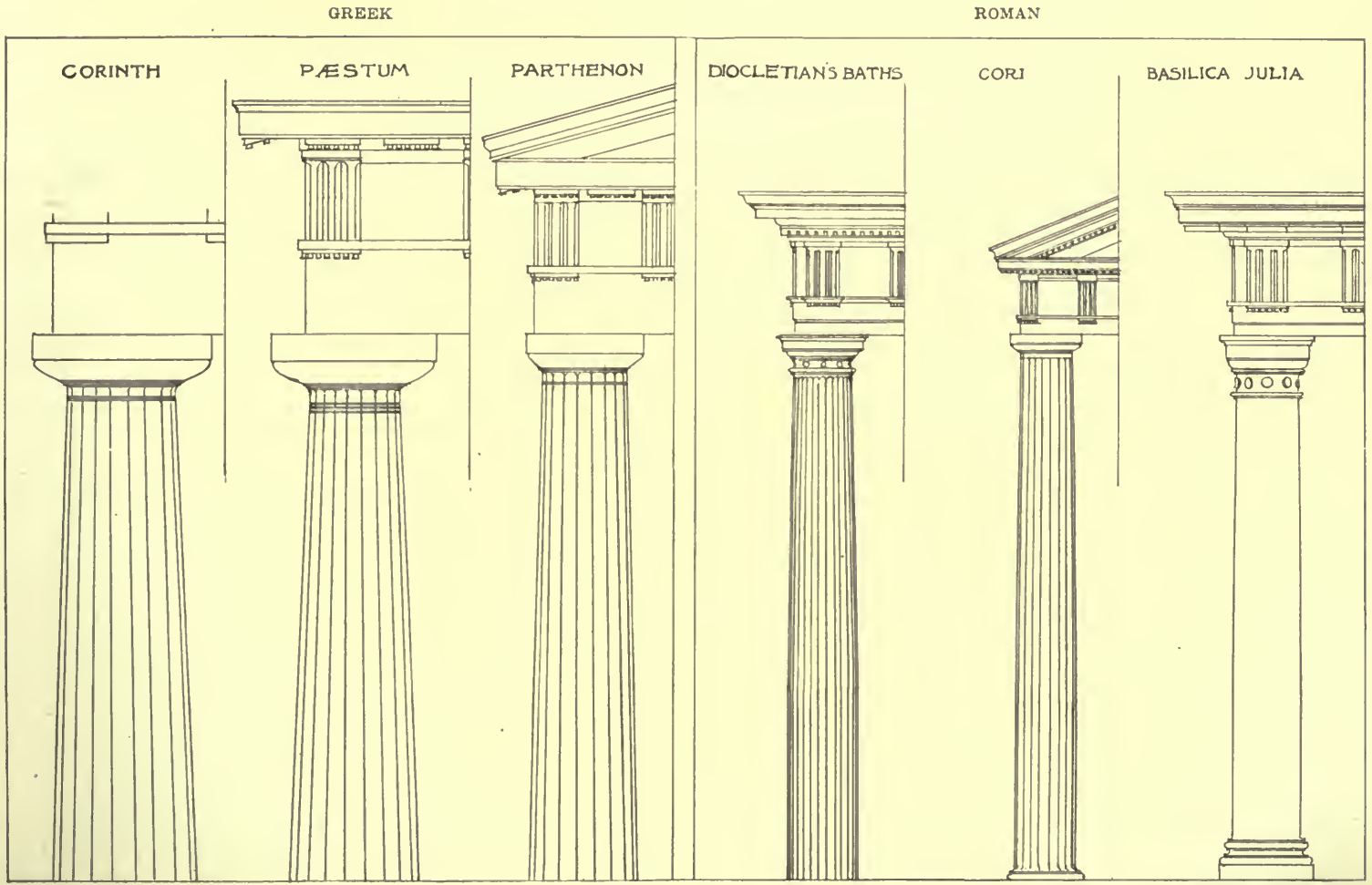



FIG. 16. COMPARATIVE VARIATION OF GREEK AND ROMAN DORIC COLUMNS.

VII.

The fifth charge is an indictment of Roman architecture and ornament on the score of its uninspired and mechanical uniformity, its subjection to stereotyped rules of design. Architectural composition became "little more than a planting of the orders on all sorts of buildings;" the capitals and mouldings are machine-made, and the whole product, throughout the whole empire from first to last, "shows a lack of variation absolutely without parallel." Obviously such an architecture is destitute of all originality.

The answer to this charge is simply a flat denial of every one of its contentions, and an appeal to the monuments themselves. It is a charge that might with some force be alleged against Greek architecture, but to assert it of Roman architecture argues the author of the charge to be either densely ignorant or curiously blind to the obvious facts. The evidence of the monuments makes the charge absurd. Many readers have perhaps been misled by the loud talk of two generations of critics who have drawn on their imaginations for the facts, and sought to make up by an abundant sprinkling of strong adjectives for their lack of discriminating study of the monuments. It will probably surprise such readers to be told that the Roman orders are infinitely *more varied than the Greek;* that Roman ornament disposed of a far greater number and variety of motives than any that ever preceded it, and treated these motives with a flexibility and a varied adaptation to position, decorative function and material which even the medieval artists hardly surpassed. If one compares the Greek temples from first to last with each other, the Doric order is seen to have been varied in hardly a single detail for six hundred years. The Ionic shows a greater variety; but in Roman architecture, in spite of its official and governmental character, a fairly detailed study of a long list of examples even in Rome itself fails to disclose *any two examples of any order, from different buildings, which are alike.* Compare, for instance, the Doric orders of the Theatre of Marcellus, the Colosseum, the Basilica Julia, the Tabularium and the Baths of Diocletian—no two of these examples are alike in proportions, base, shaft, capital or entablature. The Corinthian capitals and entablatures of the Pantheon, Temple of Castor, Portico of Octavia, Colosseum and Temple of Venus and Rome differ widely from one another, showing in each instance the exercise of individual design and in many cases exquisite refinements of detail whose existence no one would suspect from reading the writings of the critics. A cursory examination of Professor Frothingham's fine work on the Roman arches of triumph will reveal an extraordinary variety of treatment of similar programs. While the Imperial domination asserted itself throughout the vast extent of the empire by a certain unity of spirit which makes its architectural products impressively Roman, whether in Germany or Southern France, Algiers, Syria, Greece or Italy, there is little more unity of style than in the Romanesque churches of Western Europe, dominated as they were by the unity of discipline and of program of the great monastic orders. Where the program was absolutely identical, as in the amphitheatres and some of the temples, there is a close resemblance, comparable with that, for instance, between the abbey churches of Waltham in England and Cérisy-la-forêt in France, and the Maison Carrée at Nimes is thoroughly Roman-Augustan.

But the architecture of Baalbec is widely different from that of Rome, and both of these from that of North Africa. The three great city gates of Autun, Treves, and Rome (Porta Maggiore), the Gate of Hadrian at Athens and the superb triple gateway at Palmyra, are five fundamentally different designs, unlike in plan, composition, construction and detail. In Roman plans the variety is endless: the temples show an extraordinary array of differing forms and arrangements, and hardly two even of the temple porticoes are alike; the same is true of the baths, basilicas, palace groups, villas and houses. And when one considers the small number and scant variety of the fundamental types and programs of the Greek and even of the Gothic architecture, the variety of the

Roman types and programs and the ingenuity, inventiveness and resource manifested by their designers appear little less than extraordinary.

### VIII. THE SUMMING UP.

To those who have studied the Roman contributions to the art of architecture with open minds and a sympathetic readiness to appreciate what is valuable in them—and that is the only kind of study that is worth while—the Roman achievement appears worthy of the highest admiration. Its excellences are not chiefly those which one especially commends in Greek architecture, nor is it to be judged by the same criteria which one applies to Gothic buildings. Its purposes, programs, resources, problems and conditions were alike different from those of the fifth century B. C. and those of the twelfth and thirteenth centuries A. D., and it met them with a genius which in its own way and field was no whit inferior to that which produced the architecture of either of those other periods. The Greeks in five centuries produced a limited number of masterpieces of a very limited number of types, one of which they developed to supreme perfection on the Athenian Acropolis. The temple, the stoa, and the city gate or propylæa, constitute almost the whole program of Greek architecture. It is almost exclusively a columnar architecture applied to buildings of one story and of elementary plan. The column, wall and lintel were the only structural elements the Greeks used or developed. In this limited field they worked with an almost unerring taste, and their work within those limits has never been surpassed. They exhausted the possibilities of their programs, but lacked the inventiveness necessary to produce new programs or devise new constructions. They were confined to endless minute variations of one theme. In contrast to this paucity of invention, Roman architecture produced an astonishing number of programs—temples, fora, palaces, amphitheatres, baths, basilicas, gates, colonnades, arches of triumph, tombs, administrative buildings—and an extraordinary variety of constructions employing marble, cement, cut-stone masonry, brick, tufa, granite, bronze, wood and plaster, the arch, barrel vault, groined vault, dome, and truss, each according to the special program, purpose, materials at hand and environment of each building. The Romans invented the pedestal, pilaster, archivolt, and modillion, the arcaded order, the niche. They were the first who ever conceived and executed a vast and lofty interior, unencumbered by columns. This surely was a gift to the world of inestimable value. The architect of the Pantheon produced a stupendous interior of extraordinary beauty for which there existed at the time no prototype or previous approximation, and which remains unsurpassed to this day, the most marvelous product of original genius in construction and design in the whole history of art, with the one possible exception of Hagia Sophia at Constantinople, built four centuries later. In planning the Romans gave the world a new art. In their thermae and in such architectural aggregations as the palaces on the Palatine Hill, the forum of Trajan, and the temple group at Baalbec, they created a new art of monumental planning, and taught the world how, by a proper coördination of large and small parts, high and low roofs, open spaces and covered halls, a cumulative effect of artistic power and beauty, an ordered rhythm and balance, could be produced with apparently heterogeneous elements. They originated a new art of civic planning. They produced new effects of grandiose scale and magnificent symmetry.

The defects of Roman architecture are chiefly the defects of its qualities. In such vast enterprises as it was engaged in, the minute perfections, the delicate refinements and the figure sculpture of the Parthenon were not achieved, for they were not possible. Among all the vast array of buildings erected at different times over the immense extent of the empire, there were, of course, not a few which merit severe criticism. The facility of applied decoration by a factitious apparel of architectural members, lent itself to occasional abuse. But the more one studies the monuments, the more one is impressed by the resourcefulness

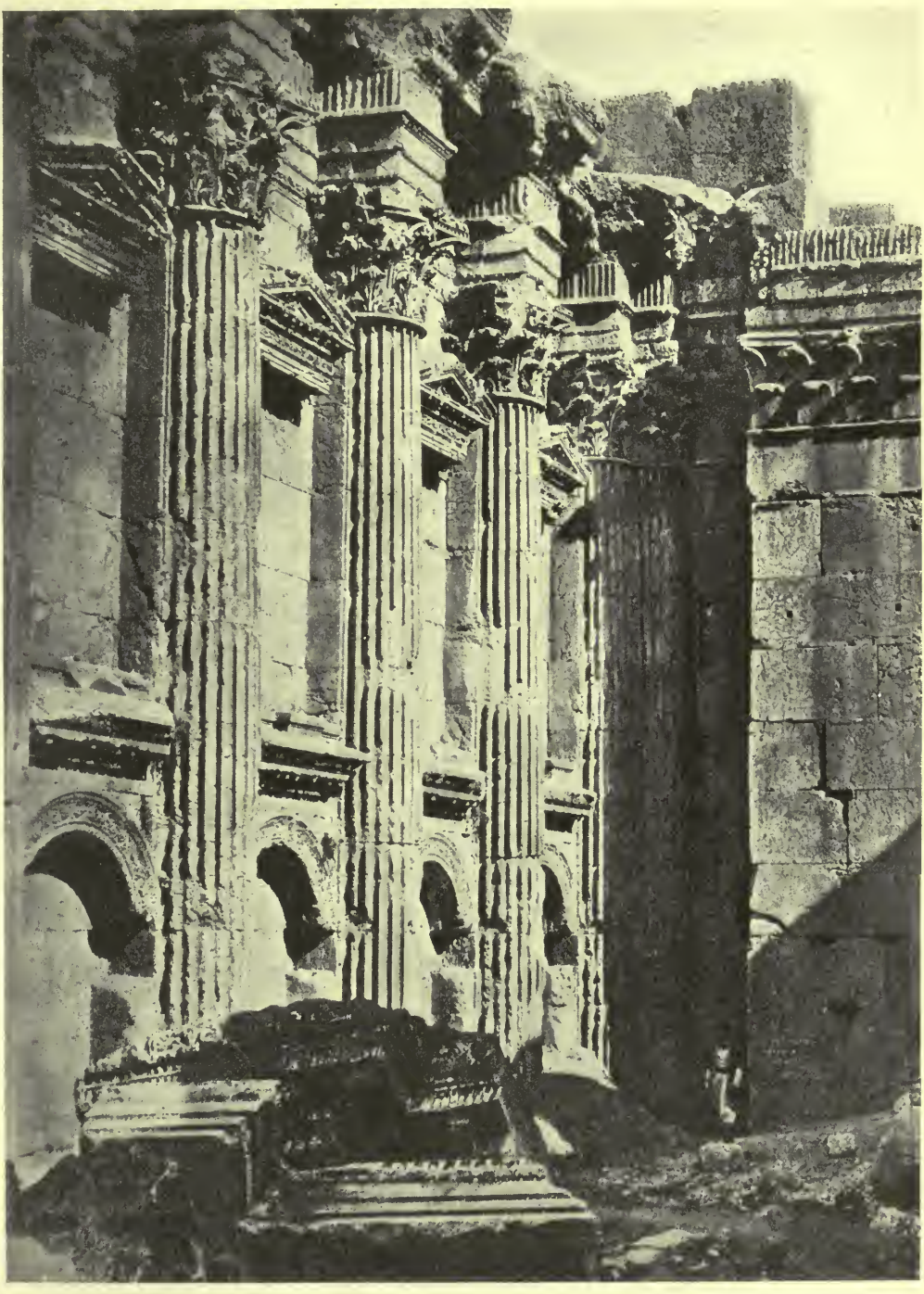


FIG. 17. TEMPLE OF JUPITER, BAALBEC, SYRIA. NORTH WALL.

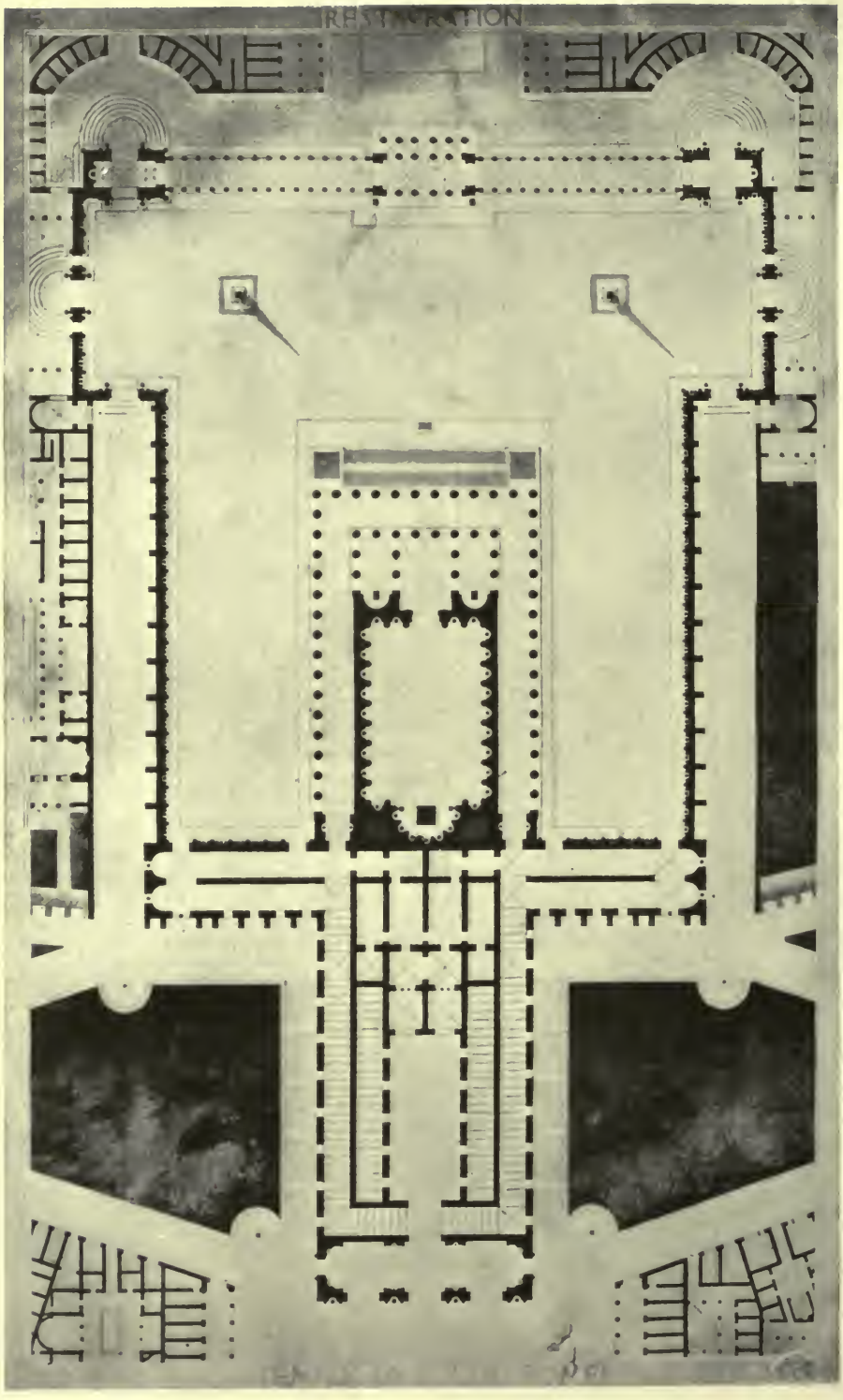



FIG. 18. PLAN OF TEMPLE OF THE SUN, ROME. FROM A FRENCH DRAWING.

and general good taste which mark their design. The forms, devices, structural arrangements and details of this architecture were extraordinarily flexible and adaptable to varying conditions, programs and purposes. It is not without good reason that these forms and devices are studied and imitated today. It was not because the artists of the fifteenth and sixteenth centuries lacked original creative power, and therefore fell to copying, that the Renaissance revived Roman forms and devices—a most preposterous accusation, to which both Ruskin and Fergusson have given an ill-merited currency. It was because the Renaissance introduced a new era in civilization, with new requirements which Gothic art could no longer meet, that the men of that time turned instinctively to Roman models for inspiration. The Roman civilization was in many of its aspects nearer to modern life than any other. Greek architecture, even had the fifteenth century been acquainted with it, was too narrow, rigid and limited to meet the new demands of the modern life. To this day the use of Greek forms is restricted to the narrowest possible range of applications, and even in these has to be varied in many details. The Roman forms are flexible, and capable of endless variation and application even to the most modern uses, and constitute an alphabet of architectural details and conceptions which the world may not outgrow or find useless for years or even centuries to come.



FIG. 19. FRAGMENT, FROM THE LATERAN MUSEUM. ROMAN SYMBOLIC AND CONVENTIONAL ORNAMENT.



TOWER AND MAIN ENTRANCE—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA. JOHN T. WINDRIM, ARCHITECT.



THE SOUTH FRONT—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.
John T. Windrim, Architect.

# TWO DENTAL BVILDINGS IN PHILADELPHIA AND BOSTON

By HAROLD·D·EBERLEIN

IN Philadelphia and Boston two important buildings for dental purposes have recently been completed, buildings that are significant from both the architectural and thoroughly practical points of view. They are the Thomas W. Evans Museum and Dental Institute of the School of Dentistry, University of Pennsylvania, in Philadelphia, designed by John T. Windrim, and the Forsyth Dental Infirmary for Children, in Boston, designed by Edward T. P. Graham.

The English Collegiate Gothic inspiration for the Evans Museum and Dental Institute may be ascribed to the desire to preserve a measure of harmony with the dormitories and some of the other newer buildings of the University of Pennsylvania, buildings in whose closely allied aspect Tudor and early Stuart characteristics are dominant.

But discussion of the architectural aspect must be reserved for subsequent paragraphs. The Evans Museum and Institute is, before all else, an eminently practical building. Its practical side has been stressed from first to last and it is fitting, therefore, that attention should first be given in that direction. It is desirable, however, before going further, to say something of Dr. Evans and the bequest by which the building for the Museum and Institute was erected. The synopsis of Dr. Evans' personal history will explain several things, among others the presence of his personal effects, including a great number of paintings and a profusion of *objets d'art* in the museum and likewise the location of the building at some distance from the rest of the University property.

Thomas W. Evans was born in Philadelphia in 1823 and, as a lad lived in a

house that stood, until recently when it was razed, on Spruce street west of Fortieth on a part of the ground now occupied by the Museum and Institute. His fondness for his boyhood home in West Philadelphia, or Hamilton Village, as that portion of it was then called, led him to designate its site as the place for the dental school whose foundation was a long cherished purpose. At the age of fourteen he "entered the employ of Joseph Warner, a gold and silver smith of Philadelphia, whose business included the manufacture of certain surgical instruments, and incidentally of plate, solders, and some of the implements used by dentists." From his occasional necessary contact with dentists he seems to have derived the impetus that led him to engage in dentistry as a profession. "In 1841 he became a student in the office of the late John DeHaven White, of Philadelphia, with whom he remained for two years." While studying under Dr. White, he also pursued a course at the Jefferson Medical College, from which institution, in due time, he graduated.

After practicing in Maryland and, later, in Lancaster, Pennsylvania, where he accomplished some remarkable work, for which, in recognition of its novelty and excellence, the Franklin Institute, in 1847, awarded him a gold medal, he was brought to the notice of Dr. C. Starr Brewster, an American dentist then practicing in Paris, who invited him to enter into partnership with him. This partnership lasted until 1850, when Dr. Evans opened an office independently in the Rue de la Paix and entered upon a career "as wonderful as it was unique." A rare combination of personal characteristics along with special technical skill soon made him a conspicuous figure. "Dentistry became to him the stepping-stone which served as a means of bringing him into contact with those to whom he made himself of value and who contributed substantially to his success. He was a born diplomat, possessing a keen perceptive faculty which enabled him to read and correctly understand human nature, delicacy and firmness in his treatment of affairs, a rigid honesty of purpose, and a foresight which was intuitive. In short, he knew how to make the best of his opportunities, and in some degree create them."

In time he came to number among his clientele virtually all of the crowned heads of Europe whom, "by his skill and attractive personality," he attached to him and, at the same time, won their confidence, a confidence well-placed, as we may judge from the success with which he conducted a delicate diplomatic mission to President Lincoln, entrusted to him by Napoleon III, as a result of which France remained neutral during our Civil War. How trusted he was by his royal clients may also be seen from the important part he was called upon to play after the disaster of Sedan, in assisting the Empress Eugenie to escape, an episode graphically described by Madam de Hegermann. His confidential relationship to the Emperor of the French enabled him to accumulate the greater part of his wealth through judicious real estate investments while his connection with other royalties and persons of note kept him in occasional correspondence with them and their friendship and regard are attested by the numerous presents of all sorts they sent, many of which are in the collection in the Museum. After a life largely devoted "to works of charity and philanthropy," as well as to the discharge of professional duties, Dr. Evans died in Paris in November, 1897.

Such, in brief, is the story of a remarkable man who, in the midst of circumstances that have more than once caused others to become oblivious of country and profession, never forgot and never allowed others to forget that he was, before all else, an American and a dentist. His devotion to his profession was extraordinary and his unselfish ambition for its scientific advancement is evidenced in his own words, written not long after the beginning of his Paris career: "I may have but little to impart, yet that little is at the service of each and all members of my profession; and gladly would I hail the day that should make all that is sound in science and valuable in art common property. By the discussion of subjects connected with our profession and by the contribution of



MAIN ENTRANCE—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA. JOHN T. WINDRIM, ARCHITECT.



MAIN STAIR HALL—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.
John T. Windrim, Architect.

each according to his ability. . . . we shall better serve the generation in which we live." When the time came to provide generously for the foundation of an institution designed to promote the interests of the science of dentistry, it is not surprising that a man, actuated by the sentiments just alluded to and amply blessed with both wealth and influence, should lay plans largely, "according to his ability." This he did for the building and equipment, exclusive of the site, which itself is exceedingly valuable, have cost more than $900,000 and no expense has been spared to make it the most complete institution of its kind in the world.

Thanks to judicious and well-calculated planning and the most painstaking care bestowed upon all practical details, it is safe to say that the Evans Museum and Dental Institute, in facilities for operation and thoroughness of appointments, has no superior and few, if any, equals. By long experience of a wide practice, dealing to a great extent with comprehensive undertakings that require special consideration for points of practical efficiency, Mr. Windrim was eminently well fitted to cope successfully with any problems in this field that might present themselves. Not only was the museum to be housed and adequate accommodations provided for the School of Dentistry, which at the present time consists of a teaching staff of 83 professors and instructors and 665 students, but allowance had also to be made for the clinical treatment of free dispensary patients, of whom there are about 40,000 a year. Besides this, there were several other important considerations to be taken into account. Ease of ingress and egress and facility of communication between the several parts of the building, without congestion or confusion at any point in the corridors, had to be assured and, furthermore, due allowance had to be made for future growth, contemplating an appreciable increase both in the number of students and in the number of free dispensary patients frequenting the clinics.

After the conclusion of vexatious litigation, in the course of which the availability of at least a portion of Dr. Evans's bequest was assured for fulfillment of



EAST FRONT—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA. JOHN T. WINDRIM, ARCHITECT.

the purpose to which he had designed it, ground was broken for the building in September, 1912, and the cornerstone was laid in May, 1913. Immediately after the dedication ceremonies on February 22, 1915, the School of Dentistry moved into its new quarters. The structure, of hard-burned brick with Indiana limestone and terra-cotta trimmings, is in the form of the letter H and displays an unbroken frontage of 242 feet along Spruce street, while in depth it extends for 161 feet on Fortieth street. There is a spacious basement and, above it, the ground, second and third floors are lofty and exceptionally well lighted. In the basement, to which the principal approach is by a stair descending a short way from the main entrance on Spruce street, are large locker rooms and lavatories for the students, a commodious dining-room for the students and, adjacent to it, a fully equipped kitchen, a separate dining-room for the faculty, laboratories for modelling, plaster casting, moulding, soldering, swaging and metallurgical work, shops for polishing and grinding, such lecture rooms as may be necessary in immediate proximity to the shops and laboratories and store rooms for supplies and apparatus.

While a close examination of the floor plans reveals the convenience and thoroughness of the provision for all practical requirements in the daily use of the building, it does not reveal the punctilious care bestowed to ensure good lighting, perfect cleanliness and ease of maintaining thoroughly sanitary conditions, all of them features of more than ordinary importance in a building of the sort under investigation. The structure stands on a slope so that a large portion of the western end is above ground and receives ample light from large windows. In the other parts of the basement, the windows open into wide areaways lined with white glazed brick so that the interior receives the maximum possible light both direct and reflected. In connection with the question of lighting, it is especially worthy of note that the walls throughout have been painted either grey or a light sage green to avoid the trying effects of eye fatigue due to staring white walls. This system of wall coloring has been consistently carried out through the entire building and emphatically marks the modern revulsion from the long-accepted convention that made the walls of hospitals, and all other buildings where stress was laid upon sanitary considerations, an uncompromising white or cream color. Spotless white may be all well enough as an infallible betrayer of dirt and incentive to scrupulous cleanliness, but the present generation has surely been sufficiently impressed with the paramount necessity for sanitary precaution to be allowed to pay some regard to the comfort of the eye instead of perpetually scrutinizing every square inch of wall surface for visible evidence of sanitary laxity at the cost of inevitable strain and weariness to the optic nerve.

The scheme of restful green paint has been carried out with reference to all the metal furniture and equipments—cabinets, lockers, operating chairs, tables and the like—which are finished in tones ranging from sage to olive and are of the most approved pattern, embodying the latest improvements in every particular.

The floors are paved with composition flooring and all the angles at junctions of floors and walls are coved so that there are no unsanitary corners. Care in this particular has even been extended to the doors and door trims. The doors are made without panels and show a perfectly smooth surface of dull finished wood on both sides. The door trims are made without mouldings and are merely bevelled. Incidentally, while meeting sanitary requirements, a pleasing architectural effect has been achieved.

On the ground floor, the east wing, to the right of the entrance, is devoted to the museum, while the west wing contains the general office, the board room, the dean's office, the general waiting room for dispensary and clinic patients and the extracting room. By a commendable arrangement, free patients applying for clinical treatment are received and registered in the general office, immediately to the left of the entrance. Thence they are sent to the waiting room directly across the corridor. From there they may be taken to the examination room



MAIN STAIR HALL—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA. JOHN T. WINDRIM, ARCHITECT.



ENTRANCE LOBBY—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.
John T. Windrim, Architect.

nearby, where a record is made of their case, or else, if they have been examined at a previous visit, they receive their card at the record desk and are distributed to whichever one of the clinics, on this floor or the floor above, may be their destination. As the clinics or other rooms which patients may have occasion to visit are all ranged about the main hall on the ground floor, or at the head of the stairs on the floor above, the circulation of an outside element is confined to one portion of the building. The building is so planned also that the students of one class, passing to and fro, will not come in contact with the students of other classes. Everything, in fact, has been done to facilitate the orderly operation of the building, a momentous consideration where the frequent and convenient circulation of so large a number of people must be reckoned upon. Special mention should be made of the operative clinic, a view of which is shown in one of the accompanying illustrations. This room contains one hundred and thirty-four operating chairs with ample space for all the accessories pertaining to each and the supply and record offices are adjacent. A flood of light is thrown directly into the mouths of the patients by a range of broad and high windows which are carried up into and form a part of the roof slope. In fact, as may be seen, nearly the whole north side of the room is of glass. On the same floor, the library in the tower, immediately above the entrance, and the main lecture hall, in the east wing over the museum, are conveniently accessible. A detailed scrutiny of the plans of all the floors shows ample provision for every facility for undergraduate study and clinical work and for post-graduate research.

So much for the purely practical side of the building. How any institution could be more complete in its appointments or more thoroughly meet all



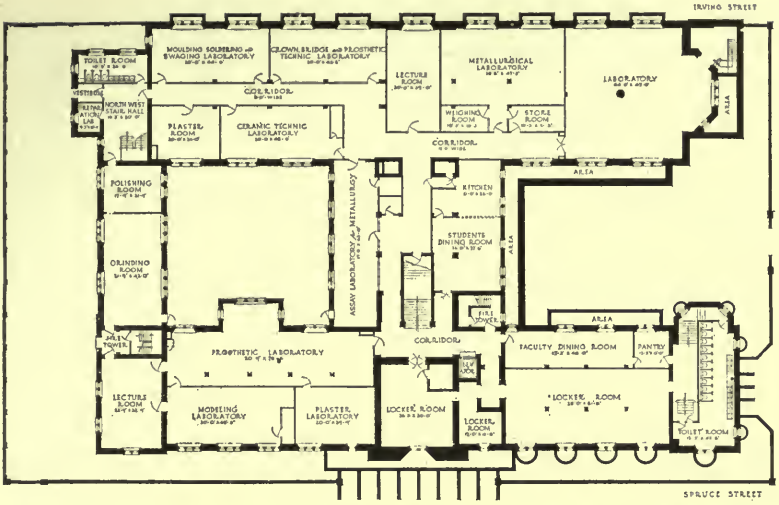
OPERATIVE CLINIC—EVANS MUSEUM AND DENTAL INSTITUTE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA. JOHN T. WINDRIM, ARCHITECT.

utilitarian requirements for its highly specialized purposes, it would be difficult to conceive. For this thoroughness and foresight alone, which necessarily entailed a far reaching study of the innumerable details and the conditions existing or likely to arise in connection with the operation of so large a building, the highest credit is due and cause one to hesitate before calling attention to certain shortcomings on other scores.

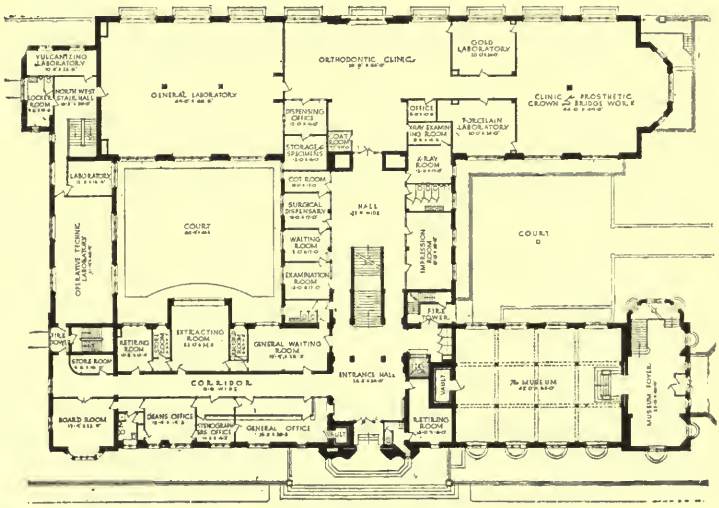
The structure is impressive in the disposition of its masses and the general aspect is decidedly agreeable but one is forced to admit, unwillingly in the face of so much laudable excellence in a practical way, that there are some disappointments when the examination is based solely upon an architectural point of view. It is true, the disappointments are chiefly to be found in small features and details but it must be remembered that it is the little things, the humble details that, after all, make or mar our pleasure in the contemplation of any piece of architectural achievement, large or small. One of the factors that contributed so largely to the pleasure of the public in witnessing Mr. Mansfield's productions was the scrupulous and exacting care he always bestowed upon the minutest details of costume and stage setting, that they should be absolutely right historically and archaeologically as well as artistically. Consequently his presentations were past criticism in that respect. Mr. Mansfield's solicitude for little things was proverbial, for he well knew their value and importance in the aggregate for creating tone and giving pleasure, whether or not individuals in the audience might be sufficiently discriminating to analyze correctly the elements of their enjoyment. It is precisely the same in architecture; the little things count in the measure of our appreciation far more than most people realize. Mass, construction, proportion and plan are most important. The big things must be right, but the details must be right, too, and if they are not it is hardly to be expected that people of discriminating taste will derive lasting pleasure and saisfaction from contemplating the result. It is not necessary that the liberty of invention or originality be hampered by a narrow, hidebound stickling for academic exactitudes—that would be mere archaeology—but there are certain fundamental amenities of proportion, of the use of materials and of the contrivance and placing of ornamental detail, the observance of which in any structure seems requisite to sincere enjoyment on the part of the observer.

In color effect, the Evans Museum and Dental Institute is exceptionally pleasing. The body of the building is constructed of a hard-burned red brick, irregularly blotched with deeper tones verging from purple to black. The courses are laid in Flemish bond and the surface of the brick is rough enough, together with the veining of the mortar joints, to impart a highly agreeable texture to the walls. The desirable note of contrast comes in the Indiana limestone door and window trims, coping, string courses and quoins. As to its proportions, the building has a substantial and dignified mien without being in the least stolid or heavy. The composition is good and the balance of the south front commendable, although one could wish that circumstances might have permitted a structure of slightly less height. Had such been the case it would have been possible to achieve a result of greater interest in the particular style of architecture chosen, a style which lends itself with peculiar readiness to felicitous expression in long ranges of comparatively low buildings. Witness many of the low-lying collegiate buildings in England and some of the more recent work at Princeton and in several other places in our own country.

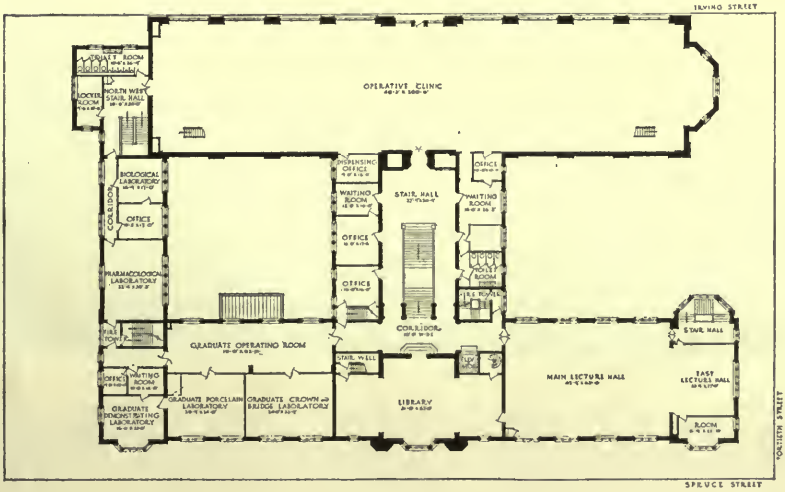
If the limits of a city site and the requirements of certain space within had not imposed definite conditions that had to be met, it would doubtless have been possible to give the tower more dominating emphasis. As it is, nevertheless, the tower is exceedingly impressive. In fact, the whole structure, whether seen from a distance or viewed at close range, is striking and has so many good qualities that one is all the more disappointed on finding some of the shortcomings re-




Basement.




First Floor




EVANS MUSEUM AND DENTAL INSTITUTE, JOHN T. WINDRIM, ARCHITECT.

Second Floor.



ENTRANCE : TO CLINIC—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON.
EDWARD T. P. GRAHAM, ARCHITECT.



BRONZE DOORS OF CLINIC ENTRANCE—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON. EDWARD T. P. GRAHAM, ARCHITECT.



MAIN ENTRANCE—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON.
Edward T. P. Graham, Architect.

vealed by a more intimate inspection. The principal entrance is through an imposing portal which leads one to expect much but unfortunately the sense of proportion and architectural fitness is sadly jarred by finding a jejune and insignificant vestibule that does not bear out the promise of the exterior. It seems almost as though exterior and interior had been designed by different hands working independently to interpret wholly diverse conceptions.

A similar lack of architectural coherence is apparent elsewhere, for in a number of instances the interior does not sufficiently reflect the mode of expression one is led to expect by the aspect of the exterior. Greater harmony of style could have been preserved without doing violence to any essential requirement demanded by utilitarian considerations or practical expediency. The museum offers a case to point this criticism. The tall quadrangular columns and the plain, crash covered walls assuredly do not echo the exterior. Here was an opportunity missed to create a panelled interior with excellent effect, an interior that would have been altogether in keeping with the architectural promise given without and, at the same time, quite as suitable for the display of the exhibits.

The great hall on the second floor and the library are really the only portions of the interior where one finds the expected conformity with the external aspect. In the hall there was a fine opportunity for an open timber roof, but what should have been open timber has been metamorphosed into steel and plaster, and cast metal can never have the fluidity of line and spontaneity of carved wood. Nevertheless, the general effect is agreeable and would have been more so had more vigorous, though harmonious, coloring been employed, such as was customary in English roofs of the period reproduced, instead of the somewhat evanescent hues suggestive of a later Continental inspiration. The travertine-faced walls of the great hall are exceptionally pleasant. One queries, however,



WEST FRONT—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON. EDWARD T. P. GRAHAM, ARCHITECT.



BRONZE PANELS—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON.
Edward T. P. Graham, Architect.

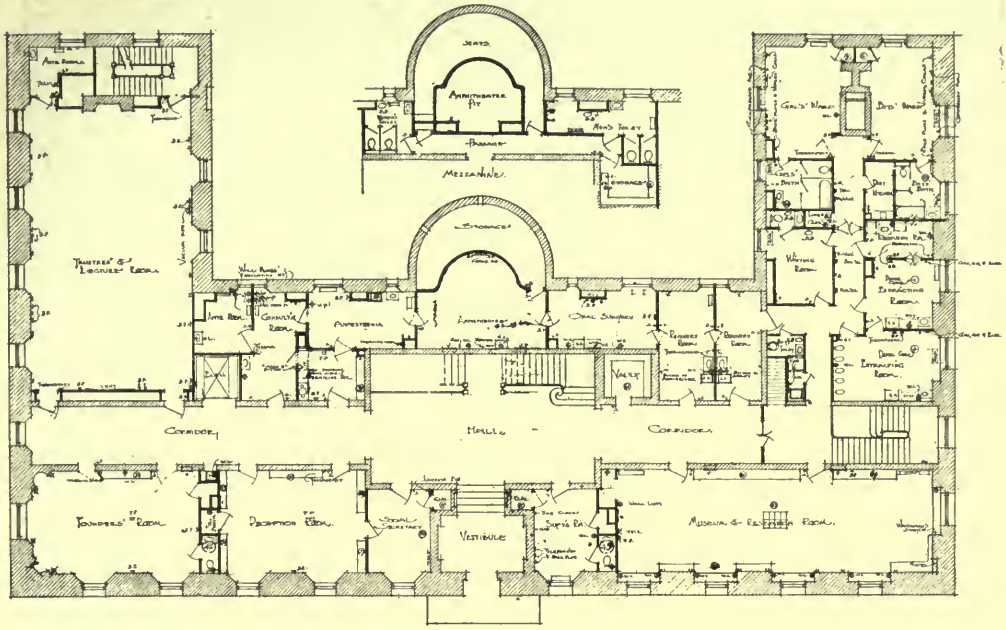
the appropriateness of putting heavy dripstones over inside doorways. It is surely not logical to do so and architectural ornament ought to have some substantial *raison d'être,* for it will almost invariably be found that the sundry forms of architectural ornament, at least the quasi-structural forms, had their origin in practical utility.

Great admiration is due the capable treatment accorded the Evans Museum and Dental Institute in respect of its comprehensive plan, which adequately meets the manifold demands made upon it, and commendation is due the composition of the *toute ensemble* for, despite the unfulfilled desiderata to which attention has been directed, the building presents an imposing appearance and bears a stamp of distinction which cannot fail to redound to the credit of the University of whose buildings it now forms an important unit.

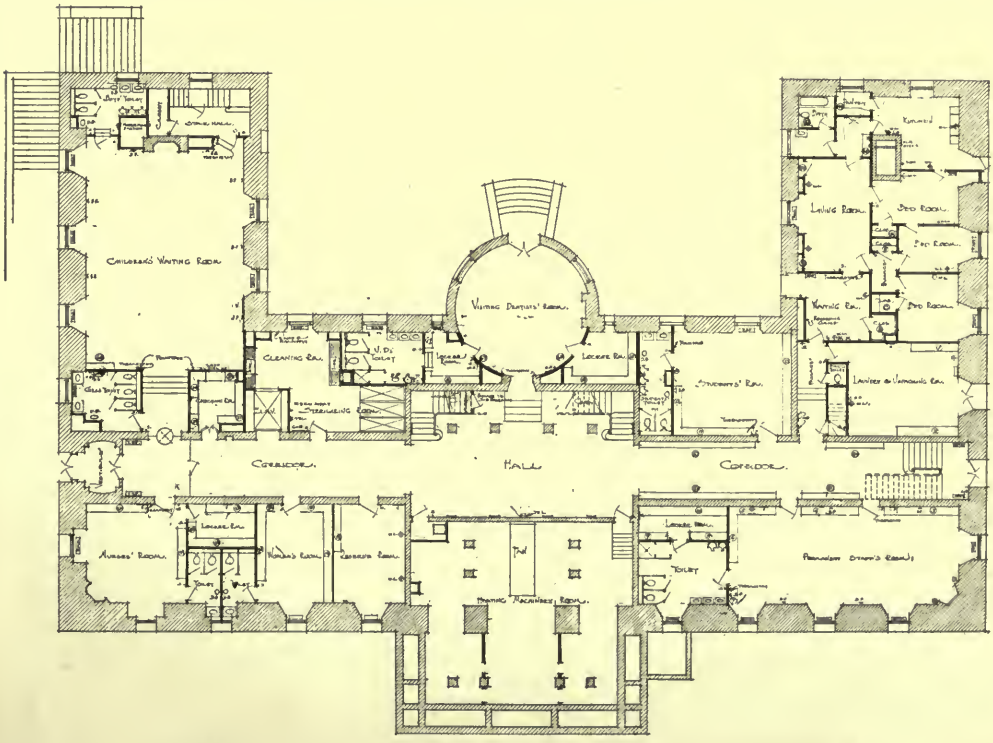
The Forsyth Dental Infirmary for Children, on the Fenway in Boston, designed by Edward T. P. Graham, is the second building claiming attention in this article. An inspection of its plans reveals a complete and convenient arrangement in basement and on the first and second floors. In the basement are quarters for the permanent staff, the children's waiting room, the visiting dentists' room and sundry smaller offices. So much of the basement is well above the level of the ground that there is abundance of light, quite as much as many buildings, more closely hemmed in by other structures, would have on the ground floor. The first floor contains an operating theatre, a large museum and research room, a lecture room and the necessary reception and waiting rooms and small offices for various purposes. The second floor is almost wholly occupied by the infirmary.

A survey of the exterior brings with it a sense of satisfaction. There is a finish and completeness in its aspect that cannot be other than gratifying and the observer feels at once that it is a worthy and representative addition to the series of buildings being systematically erected, according to a well conceived and coherent civic plan, along the Fenway in Boston, a comprehensive building project that does credit to public foresight and public spirit in that community and bids fair, in a few years, to transform what was formerly an unsightly waste into an exceptionally beautiful parkway.

The proportions of the building are singularly agreeable and the just balance between mass and detail is carefully preserved. The large amount of window space required in the walls of the upper story, to supply adequate light in the infirmary, is balanced by the strong corners and the procession of Ionic capped pilasters separating the windows on each side. The massive treatment of the basement and first floor walls affords a suitable support for the colonnaded treatment of the upper story. The composition, regarded as a whole, presents a happy combination of classic austerity and Renaissance geniality and the exquisitely wrought detail that occurs now and again




GROUND FLOOR PLANS—FORSYTH DENTAL INFIRMARY FOR CHILDREN.
Edward T. P. Graham, Architect.




BASEMENT PLANS—FORSYTH DENTAL INFIRMARY FOR CHILDREN.
Edward T. P. Graham, Architect.



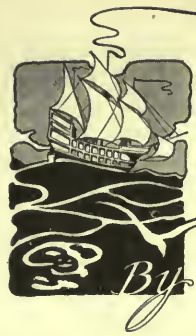
PANELS ON DOORS OF CHILDREN'S ENTRANCE—FORSYTH DENTAL INFIRMARY FOR CHILDREN, BOSTON.
Edward T. P. Graham, Architect.

at different points of the building impresses one that the conception, while strong, is urbane rather than severe.

Where a bit of pleasantry or playfulness can be consistently introduced without derogating from the dignity of an architectural composition it always affords a desirable feature and lends a certain unique character. Such a charming bit of playfulness we find successfully introduced in the exquisitely wrought panels of the bronze doors of the children's entrance, executed by Roger Burnham, where scenes from "Alice in Wonderland" and "Uncle Remus" are depicted in a way to attract and delight the unfortunate little patients who cross the threshold.

One can readily imagine that the feelings with which the young sufferers enter the building are not the most happy in the world and it is surely very appropriate to place anything before their eyes that may serve to divert them from thoughts of their discomfort and cheer them. If anything can do it, the grin of the Cheshire Cat and the attitudes of Brer B'ar and Brer Rabbit will.

The stone carving at various points of the exterior and the refinement of the modelling displayed on the other doors, shown in the illustrations, speak sufficiently for themselves without comment. On regarding the building carefully one can truly say that it is wholly fit for its intended purposes, judged from a purely practical and utilitarian point of view and that in its architectural aspect it measures up to high standards. Its conformity to academic conventions has not impaired the vigor and originality of individual expression. The comparison of both buildings and their several points of excellence forms an instructive chapter in the study of recent architectural performances.



# Certain Phases of Spanish Colonial Architecture

By Marrion Wilcox

AT the beginning of the present century it was said, and with good reason, that Spanish architecture had, even then, exerted a notable degree of influence upon the principles of design and of ornament as applied to building in the United States; that the Mission Architecture of California had proved to be, most happily, a source, as it were, of true inspiration; and that our architects who resorted to this source of inspiration had produced excellent work in the Western States.

Those observers who had studied in Spain and Latin America noticed the extension to all parts of this country of principles of construction derived, either remotely or immediately, from the Iberian Peninsula, and suggested, naturally, that one of the results of such events as our wars in Cuba and the Philippines would be to make the study of Spanish-Colonial architecture of particular interest in the future.

Now we are in the midst of that future: now, looking back, mindful of superb though very new examples of Spanish Free Renaissance buildings that to-day may be seen in Washington and at several other points in the Eastern States, we are fairly obliged to notice a growing tendency during the last decade in the United States to accord to Spanish-Colonial architecture at least its due share of influence.

I gladly leave to others the privilege of comment upon those tendencies which, at home, are manifesting themselves in the fashion of adapting such a well-derived foreign style to our own needs and practices. My purpose is, in this brief study, to indicate tendencies that have run their course in two great and ancient centres of Hispanic culture in the Western Hemisphere—Peru and Mexico; and it seems convenient to begin with observations actually made in the famous Torretagle house in Lima, July 7, 1906.

This house, confronting the Casa de Ejercicios del Sagrado Corazon is said, and I think truly, to be the only fine private dwelling in the Peruvian capital that still preserves its original form. It may be regarded as typical of the house of the old West Coast aristocracy at the beginning of the eighteenth century. There is much carved wood on balconies, ceilings, shutters of the windows; and certainly the effect produced by this ornamentation, overemphasizing details to which it is applied, is striking, literally: it challenges attention when one first sees the facade or passes from the street into the large *patio*. But the details are insubordinate: therefore all those agreeable intimations of serenity with stability which a noble old mansion should convey are lost.

This is not, one reflects, a beautiful house—not really to be ranked with fine old Italian and English houses. Well, why should we expect to discover good art in these West Coast countries? Their conquest was effected by rough soldiers. Architects, painters, sculptors did not usually join the bands of the conquistadores; and it seems quite clear that even at a later period they neglected to come out in sufficient numbers to make their presence felt in the direction and control of public taste, for there is little or no evidence of innate sense of form and line, or even of very high ideals, in the works of art one is apt to see at first, although elaborate proof is at hand of the artisans' demonstrated skill in handling wood (Fig. 1) and stone. And again, what kind of artistic propositions

should we expect from the people of mixed blood—the Indigenes having been content before the conquest to produce in all the arts such things as to us appear to be nearly devoid of beauty?

Reply to such questions and objections as these I sought faithfully though critically in the course of long journeys into many parts of Latin America. Gradually it became evident to me that the natives had shown an almost marvelous degree of patience (patience rather than the quest of beauty having been their ideal) and of manual dexterity in the execution of such works as their European masters had been able to plan. Moreover, these masters, being masters also of the enormous treasure of the land, were actually enabled to secure from time to time the services of a few competent architects: in this respect one's first impression undergoes decided revision as the field of study becomes wider.

At the Recoleta—inviolate home of the Franciscan Order in the outskirts of Cuzco—we read, as it were, an early chapter of the same story. Here is the Franciscan severe interpretation of the art of the mother country in the sixteenth and seventeenth centuries: "Toribio de Fustamente, fundador de esta santa casa" —thus runs the inscription on the founder's portrait—"murio el año 1619. Esta enterado junto al altar major de este convento, que acabo año 1601." He finished it indeed in the year 1601. Its design undoubtedly has been modified, yet without inharmonious changes, in later years—although the clock I asked the Cuzco student, my assistant that day, to photograph (the clock in the wall, beside the precious old shrine), was placed right there, the Cuzco student assured me, in that very same wall, at the beginning, when it had but one hand, and there has remained since the convent's foundation! (Fig. 2 shows the shrine, the pictorial value of which is, I think, enhanced by omission of the ancient clock-face.)

Gentlest feature perhaps of all is the *patio* (Fig. 3), the arches of which are seen above or through foliage of *retáma, floripondio, sauce, pino, pino chileno, nucau, durazno, capuli, rosas con flores diferentes, fuchsia,* and *cedroncillo;* this being a true list of plants in the irrigated undated garden—charmingly artistic garden of an arid skyland—the garden of the convent's *patio* or inner court. Much cheerful talk there was, I remember, with Rev. Franciscan Father José Gregorio Castro and his associates while we walked about in every part of the building, surveying the Recoleta's art treasures—which generally represent death, and extreme suffering either before or after death.

And this Recoleta may stand for the Peruvian phase, barely suggested in such a brief note, of the Franciscan structures about which there will be more to say when we come to Mexico.

But before coming to Mexico we must speak of the most characteristic Peruvian phase, as follows:

The city which, more than any other West Coast city, should be regarded as a home of culture in general, and therefore specifically a centre from which control and direction of the fine arts has proceeded, is the interesting place called on the maps Arequipa. The Peruvian "Tarrytown," we may call it, since the name Arequipa signifies in the Indian tongue, "Yes, rest here." But orderly processes of architectural development were rendered impossible in Arequipa, even more infeasible there than in other populous cities, mountain-built or on the Andean littoral. Repeated and very violent earthquake shocks forbade such edifices as would have been stable enough in other lands to "rest here"—or there or, in security, anywhere near the geosynclinal that follows the Andean coast line. The cathedral at Arequipa, formerly more imposing than it is at present, is built of volcanic stone "in a style adopted," as a famous traveler writes, "after the earthquake of 1821, which laid most of the city in ruins, as a security against similar catastrophes." Better than any other large building I know, it represents the earthquake phase. It is an expedient, complying with, while bravely protesting against, imperative demands of the plutonic forces: not towered and domed, like the cathedral and the Compañia at Cuzco, but capped with



FIG. 1. EXAMPLE OF WOOD-CARVING IN THE CATHEDRAL AT CUZCO, PERU.

spires in the fashion of the church of San Pedro in Lima. We may scorn it —in a photograph, but shall not easily do so in its own proper environment. Orderly processes of development, we repeat, having been interrupted in all this region, to what rank shall we assign the Arequipa cathedral (Fig. 4) and the other West Coast "expedients"? These external columns, supporting nothing, are architecturally indefensible, one may be tempted to say. But in the late afternoon the sunlight catches the tops of the small trees in the plaza and the more prominent pillars of the cathedral, making the gray, long façade, with its surplusage of columns, seem vigorous enough to support the load of Atlas; catches the top of that destructive volcano called Misti, making its enormous mass look like an imponderable cone that one could walk to before sundown, though in fact to reach that summit and return would require two days' hard riding and climbing; so then Misti, with sky and clouds around it, drawing near in the picture at that hour, is apparently upheld by the array of otherwise unemployed columns. We shall, I think, classify this building with other justified devices or expedients as examples of exceptional environment, so remote from normal processes of architectural evolution that, like certain variants in biology, they have no issue. Therefore, or rather, for analogous reasons, we come upon a sterile West Coast period.



FIG. 2. A SHRINE IN THE CONVENT CALLED LA RECOLETA.

In Mexico only, among all Latin-American mainland countries, has Spanish-Colonial architecture secured its full and consecutive expression and development. We note here three main periods: 1. The earlier structures, erected soon after the conquest of Mexico, characteristics of which are massive strength and utter simplicity. A convenient designation is the one already employed, "Franciscan," or Early Franciscan; and the term forcibly connotates austerity, rejection of adornment, subordination of the æsthetic to the useful; yet we should not overlook the fact that the Spanish monarchs themselves, for the better protection of their colonial subjects, ordained that churches should be so built—for strength rather than for beauty, with battlements rather than ornaments—that they could serve as fortresses in time of need.* Civil and religious authorities were, of course, in absolute agreement. 2. Spanish Baroque. 3. The Churrigueresque period, from the first part of the eighteenth century to the end of the Spanish régime in Mexico. In its origin strictly and peculiarly Spanish, the Churrigueresque style may be likened unto seed falling into good ground and bringing forth delightful extravagances or absurdities "an hundredfold" only in

*Codification of the *Leyes de Indias*, Madrid, 1681, Vol. II., folio 91. Cited in "La Arquitectura en México. Iglesias," by Antonio Cortés, Mexico, 1914.



FIG. 3. PATIO OF LA RECOLETA, NEAR CUZCO, PERU.



FIG. 4. THE CATHEDRAL AT AREQUIPA, PERU.

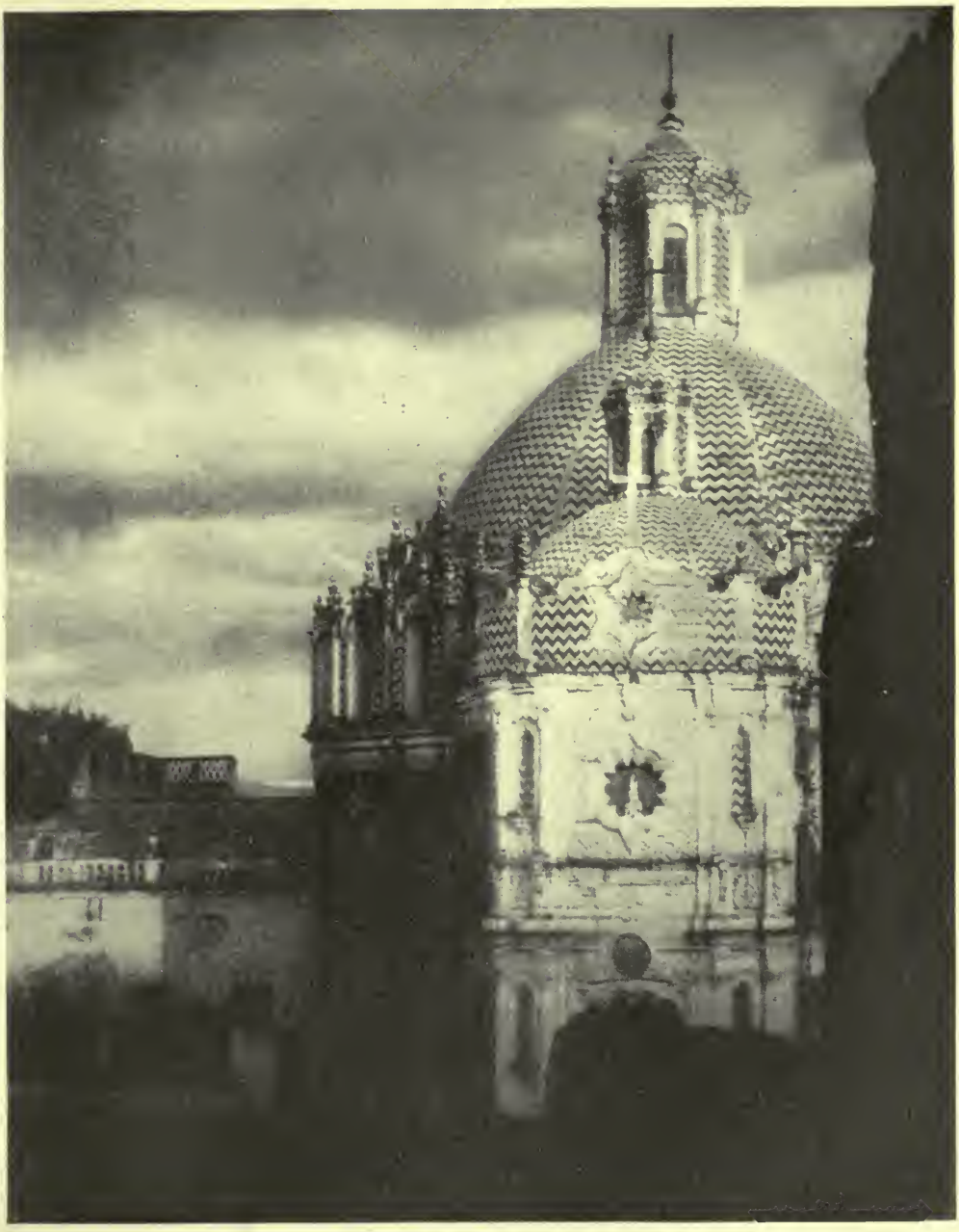


FIG. 5. THE CHAPEL OF THE WELL (LA CAPILLA DEL POCITO), AT GUADALUPE, MEXICO.



FIG. 6. BALCONY OF THE CATHEDRAL AT CUERNAVACA, MEXICO.



FIG. 7. PAROCHIAL CHURCH OF TAXCO, GUERRERO, MEXICO.



FIG. 8. MONASTERY IN SAN ANGEL, MEXICO.



FIG. 9. CATHEDRAL AT CUERNAVACA, MEXICO, BEGUN IN 1529. THE TOWER (LEFT) WAS REBUILT IN 1721. CHURCHYARD SEEN THROUGH ARCHED GATEWAY. IN THE FOREGROUND (RIGHT) IS THE CHURCH OF TERCER ORDEN.

Spain and her colonies—nowhere else. The tendency was fully, often most extravagantly, expressed in Mexico to abandon structural simplicity in favor of mere ornamentation—of ornament for ornament's sake. We also note the survival of the artistic traditions of the aborigines, as this perpetuation is clearly shown, for example, in the decoration of the façade of the seventeenth century *Tercer Orden* church that stands by the arched gateway giving access to the cathedral at Cuernavaca. Señor Cortés writes succinctly: "Because the artisans who built the structures of the conquerors were natives, the new architecture retained characteristics that remind one of the ancient Mexican decorative art, as we even now may see in the chapels of the Hospital de Uruapan, State of Michoacán, of Sanctórum of San Joaquín, Federal District," etc. A tendency plainly discernible in recent years—this is a conclusion based upon my own observations in Mexico in 1907—gives most positive assurance of the revival of ideals in art (such as they were) that prevailed before the conquest: a Nahuatl-Aztec Renaissance. And, finally, we note the universal acceptance by Mexican builders of the dome—an architectural feature perhaps Persian, certainly Oriental in origin, but popularized by great sixteenth century achievements in Italy. We must regard it as the predominating architectural characteristic of the country.

Impressive sincerity and simplicity, characterizing early Spanish-Colonial buildings, gave place to styles that Mexican art critics themselves call decadent. Familiar examples of Spanish Baroque are the church of Santo Domingo in

Oaxaca, and the chapels of Santo Cristo in Tlacolula and of Rosario in Puebla. Recent comment by Señor Cortés on eighteenth century tendencies is fairly indispensable at this point: "In Spain, José Churriguera and his two sons, Jerónimo and Nicolas, were most active in promoting the Baroque, impressing upon it so much of their own personality that in process of time their interpretation of it received the name of 'Churrigueresque style.' The Churrigueras, far from inventing anything new, merely carried to extremes the decadent exaggerations of the Baroque style. Whereas the latter had respected the primitive simplicity of the column and panel and straight outlines and had safeguarded the natural independence of sculpture, the Churrigueras (on the contrary) transformed columns into pilasters covered with decoration, ornamented the panels, broke up all the lines, and made sculpture an integral element of the construction. By such means . . . they reduced architecture to an inferior rôle, and granted complete supremacy to decoration and ornamentation . . . great approbation was granted by our people to this style, which was so in harmony with our ardent and lawless imagination. . . ." Uncommonly interesting, as an admission on the part of an accomplished critic in Mexico. But let us now examine Mr. Ravell's excellent views (Figs. 6 and 9) of the Cuernavaca Cathedral, which was begun in 1529—its "old *balcón*," as this detail is called locally; and the comprehensive view showing, on the left, a tower rebuilt in 1721, the arched gateway through which the large churchyard is seen and, on the right hand, the church of the *Tercer Orden* of San Francisco (seventeenth century). Next, we may turn to figure No. 8, which shows the harmonious structural lines, unadorned, of the monastery in San Angel. Place between these photographs of the earlier structures the view (Fig. 7) of that perfect example of Churrigueresque, the Parochial Church of Taxco, Guerrero (completed December 3, 1758), with florid ornamentation on towers, above roof-level, and on façade vividly contrasting with those surfaces of the towers below the roof-level, which are plain: this sharp contrast being typically Churrigueresque. And, finally (Fig. 5), the Chapel of the Sacred Well (La Capilla del Pocito), in Guadalupe, near Mexico City, completed in 1791 by the architect Francisco Guerrero y Torres. In this group the history of Mexican architecture in the colonial period is epitomized. Ardent and lawless imagination sometimes produces work not one-half so charming as these sixteenth to eighteenth century buildings. Charming, certainly, though the quest of sharp contrasts has tended in the past and still tends ruinously toward excesses—at worst repulsive, at best recalling those observed in the Torretagle house.



DOORWAY IN THE COLONNADE OF THE NORTON HOUSE, EAST GOSHEN, CONN.

# COLONIAL ARCHITECTVRE IN CONNECTICVT

*Text and Measured Drawings by Wesley Sherwood Bessell*

**PART III.**

THE color note in Colonial work is the doorway, frequently the one spot of ornamentation. On it was lavished a wealth of resources to obtain matchless refinement and stateliness. No matter what manner of house you may come upon, if it is Colonial the doorway will surely arrest attention; only in the typical doorway of the smaller houses does one see repetition, in the others there is the widest variance.

The doorway of the large Pratt house, at Essex, has the flat pediment and pilaster treatment, with the frieze omitted in the pediment itself, but with a curved frieze in the entablature over pilasters; the modillions are of a type and design often seen in such cornices; the crowning mould is a cyma-recta, with a fillet and cove below, then a fascia, under which are the modillions. The pilaster cap is a quarter-round, bevelled on the top, a fillet and cove, with a half-round, and cove for the necking. This door, with the exception of the steps, is the original, and is a type of which there are many diversifications.

The detail drawing of the small Pratt house doorway, on Rope Walk, Essex, shows a doorway of the same character, but with a complete change of mouldings and an entirely new makeup. One has wide latitude in the designing of doorways; so many ways and means are at hand that there seems to be no end of possibilities. With these examples before us, we may create and improve; but doorways in the Colonial manner are

not to be placed promiscuously on all sorts of architectural compositions; use them consistently, and the charm is not lost. The pediment treatment may have been flat, with pilasters, or projected sufficiently to contain a disengaged column, then again it may be similar to the entrance doorway of the Perry House, at Litchfield, with its peculiar doubled supports. This doorway was built in 1771 by Lynde Lord. The cornice members are not composed as called for by Vignola, and seem a bit crowded in line on the upper portion. The dentils are very interesting, being long and cylindrical in form. The small supporting columns are exceedingly attractive. They are delicate and refined, and tapering from top to bottom, are two and seven-eighths inches in diameter at the top and four and one-eighth at the bottom. The side lights are curious in their curved muntins, and the whole butts into the overhang of the house as it will.

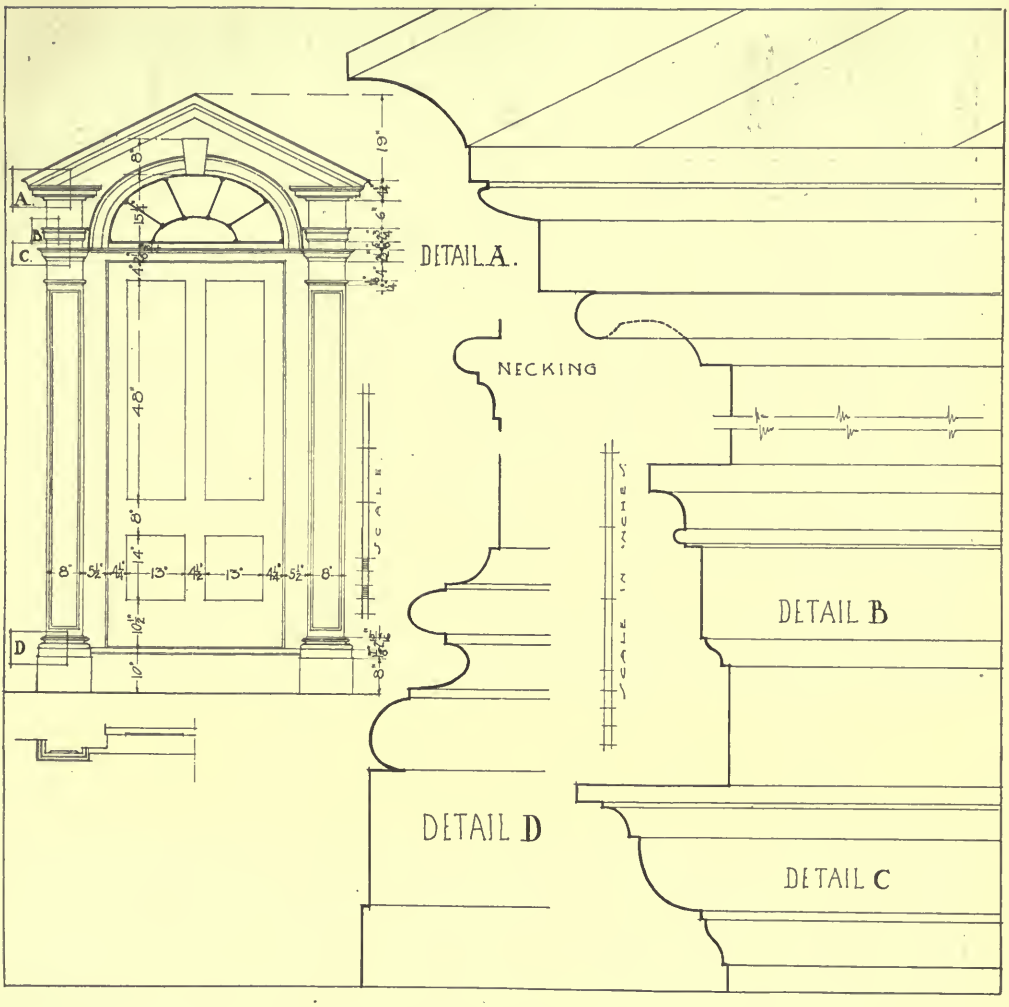
Other motives for Colonial doorways included a complete entablature supported by flat pilasters; or, as in the pediment treatment, disengaged columns; or a hood, as on the Perry House.

The Seymour doorway, at Litchfield, carries with it a great deal of dignity; it is well proportioned, has an attenuated feeling, and the small details are carefully executed. The proportion of the entablature does not follow hard and fast rules of classic proportion, but violates it in a pleasing manner by the width of the fascia and the small architrave members. The pilaster caps likewise are not in accord with historic precedent, but no one will deny that this is an interesting and well designed doorway.

The Butler doorway, at Litchfield, is similar in composition to the Seymour; still it varies enough to give it its own distinction, and here again the rules are violated in the width of the fascia and cornice; the architrave also is of a smaller proportion than is strictly permissible, yet it is pleasing to the eye and, after all, proportion is decided by what pleases the eye. Here the modillions are used as on the pedimented doors; the crowning moulds are a fillet cove and cyma reversa, then the small fascia. The sidelights differ from the customary handling, but they have an individuality of their own worth adopting, with ad-



TYPICAL DOORWAY OF SMALL HOUSE OF THE PERIOD OF THE CLASSIC REVIVAL.




DOORWAY OF THE PRATT HOUSE, ON ROPE WALK, ESSEX, CONN.
Measured and Drawn by Wesley Sherwood Bessell.

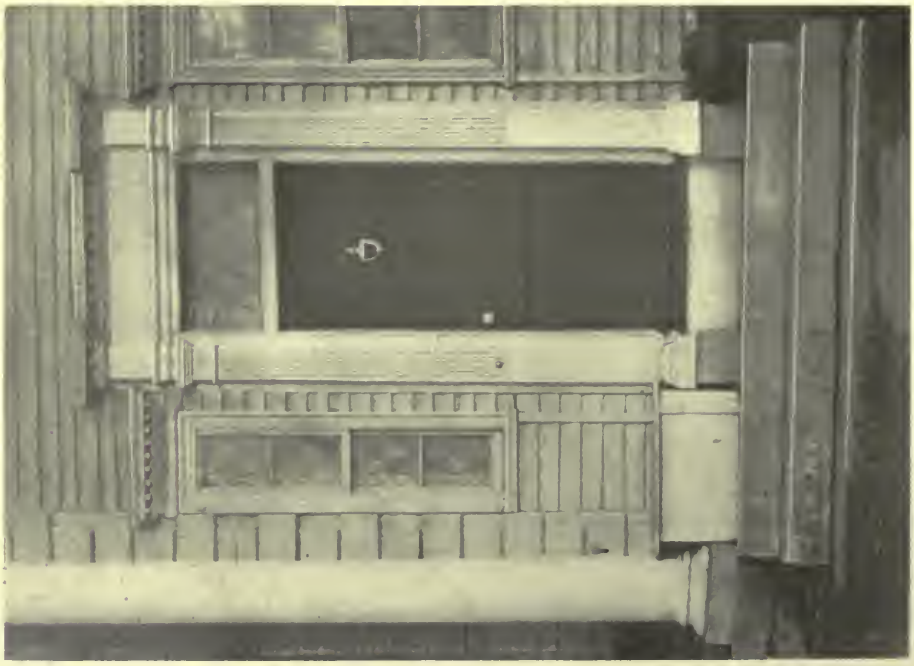
mirable effects possible. Here the designer had the boldness to place the doorway on a corner of the house, which is not at all discordant. A great deal of quaintness is procured very often by placing a doorway in this manner. It need not be the main entrance, but if well placed it will add a homely feeling not at all undesirable.

The door of the Town Hall at Essex is in a wood structure and is somewhat Greek in feeling. It is extremely beautiful, the panelled door itself being carefully thought out and the sill and plinth block being entirely different from any other. Doorways of this character are too seldom used—simple and dignified, but with "quality" in abundance.

Again, different from both of the preceding ones, is the doorway to the Norton house, at Goshen. Like the house itself, the details are refinement at its best. The fanlight and sidelights, designed with the door as a whole, and the coupled columns between the door and sidelights are tapered and beaded. The entablature contains an interesting bracket treatment, and the motive on the fascia of the entablature of the main hood is exquisite in composition. Still another door to this house is the small side door under the colonnade, showing a plain treatment



DOORWAY OF THE SEYMOUR HOUSE, LITCHFIELD, CONN.



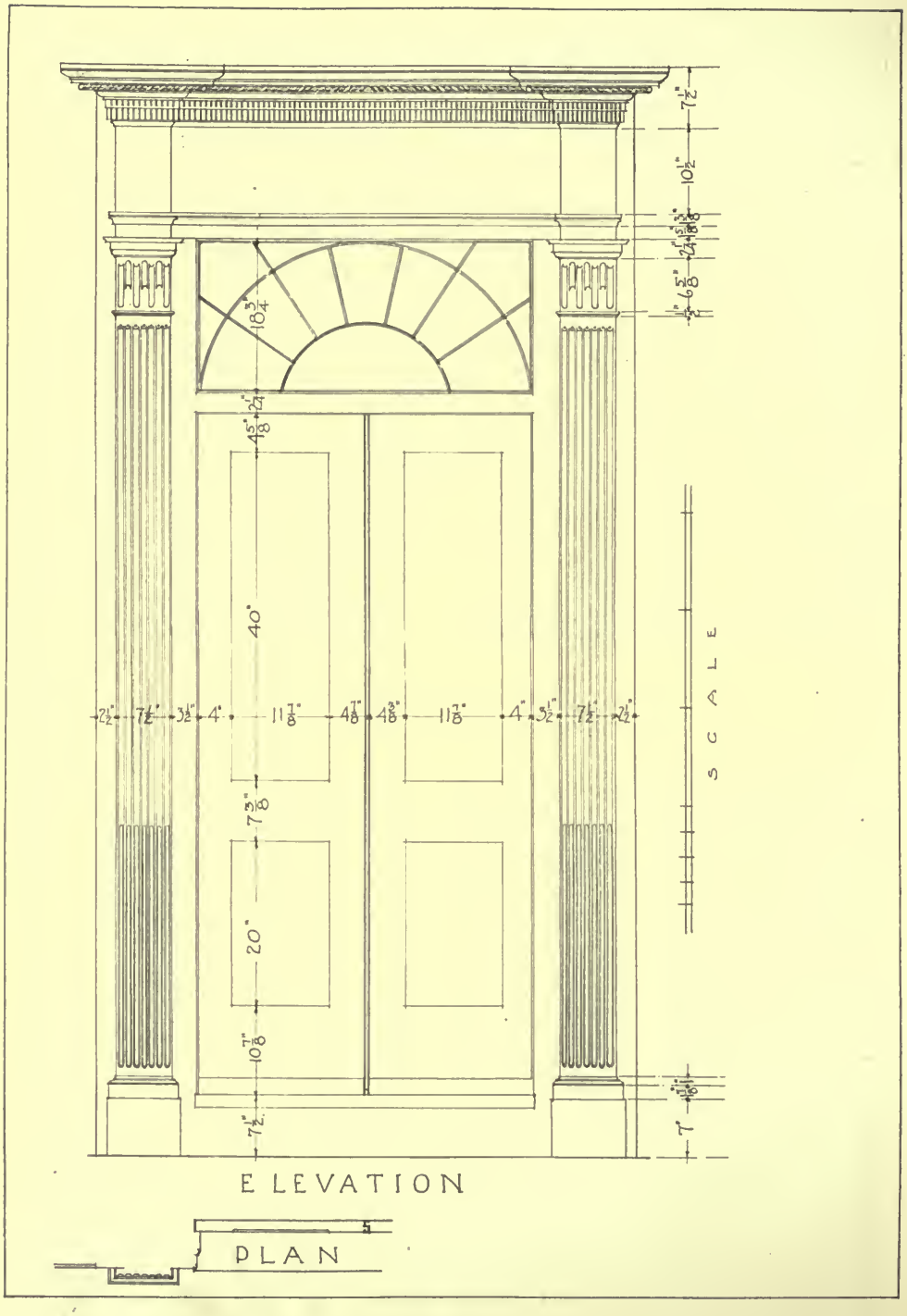
DOORWAY OF THE BUTLER HOUSE, LITCHFIELD, CONN.



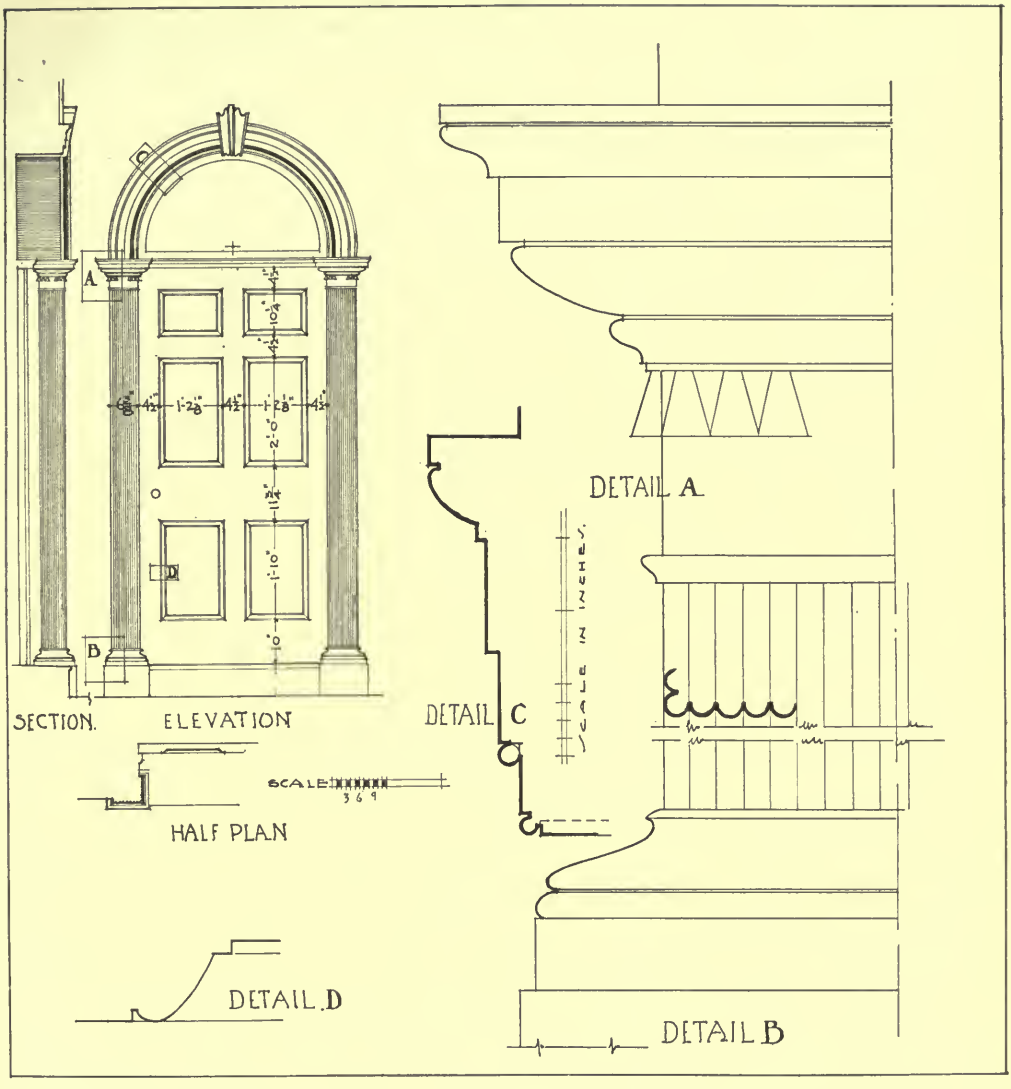
DOORWAY OF THE PRATT HOUSE, ESSEX, CONN.



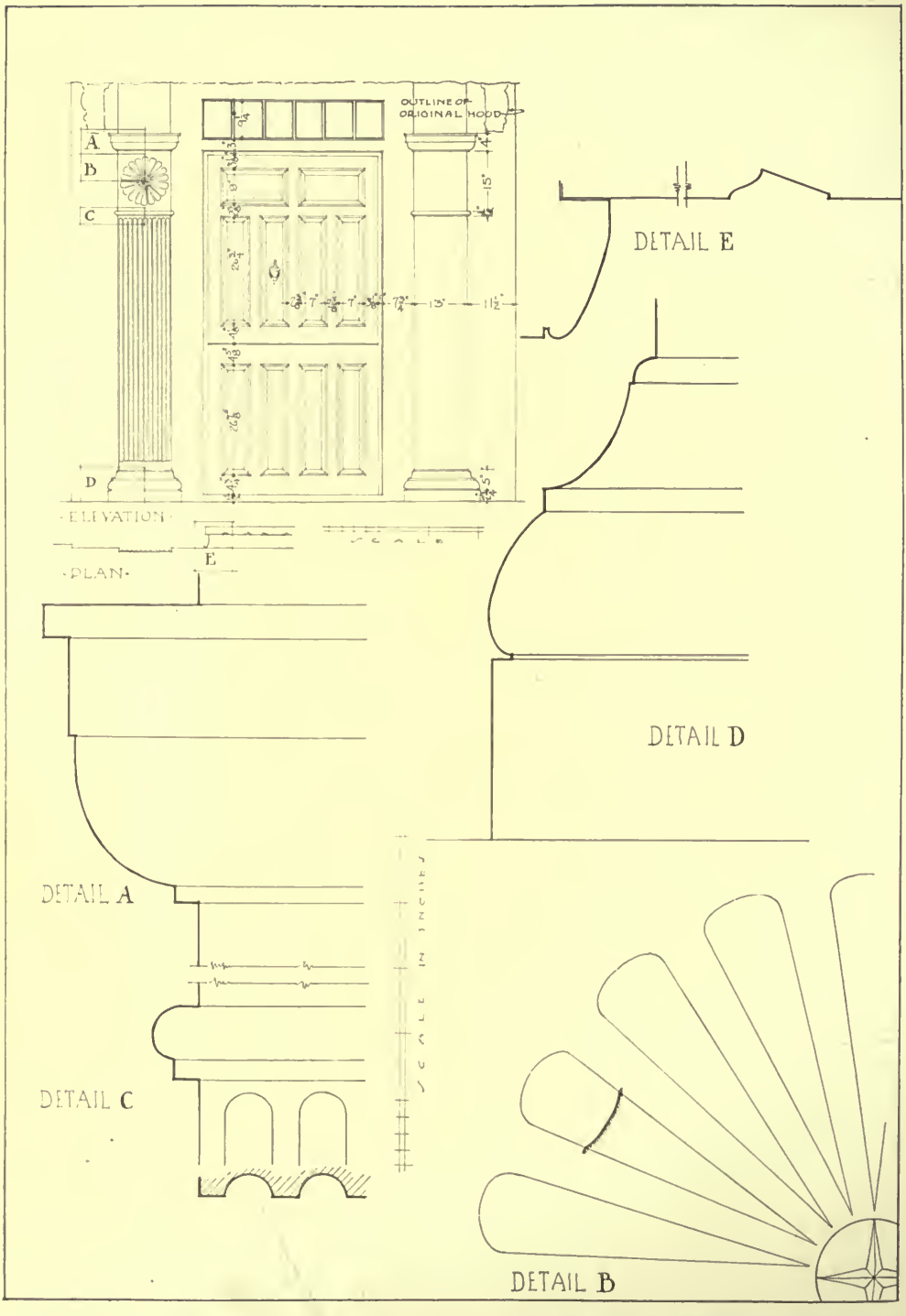
DOORWAY OF A HOUSE AT LITCHFIELD, CONN.




DOORWAY OF THE SEYMOUR HOUSE, LITCHFIELD, CONN. MEASURED AND DRAWN BY WESLEY SHERWOOD BESSELL.



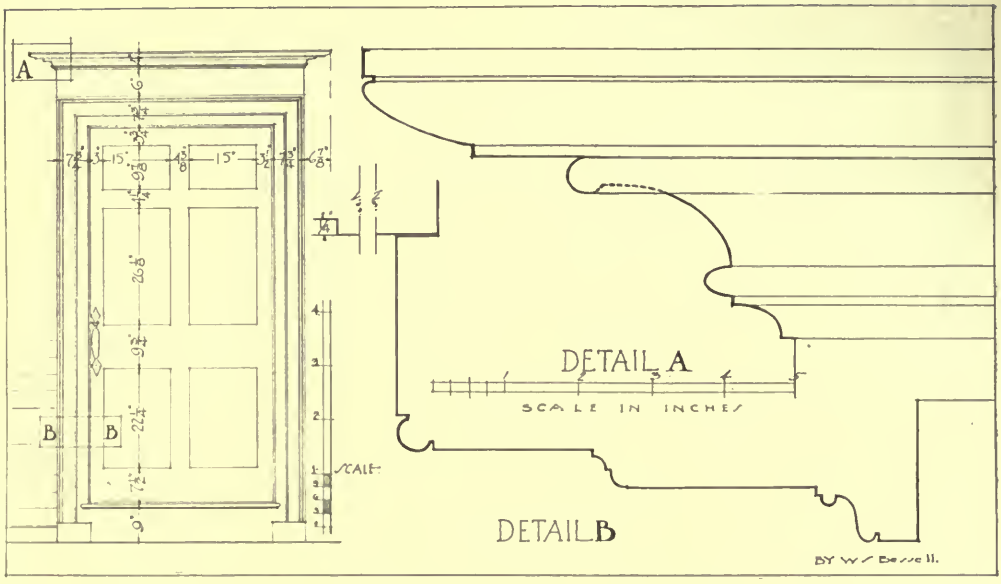

DETAIL OF A CHURCH DOOR AT AVON, CONN. MEASURED AND DRAWN BY WESLEY SHERWOOD BESSELL.




DOORWAY OF THE SILLS HOUSE, SILLSVILLE, CONN. MEASURED AND DRAWN BY WESLEY SHERWOOD BESSELL.



DOORWAY OF THE PORTER HOUSE, SAYBROOK POINT, CONN.




DOORWAY OF THE TOWN HALL AT ESSEX, CONN.

with small fanlight; it is placed off centre of the colonnade, but on centre of the main hall.

The Cowles doorway presents another handling. The peculiar inverted tapered columns are delightful, and could be copied advantageously, not alone in this manner, but with variable treatments. The single header brick arch is a three-point arch and has a high shouldered spring.

Still another brick-set doorway is the one at Saybrook Point, entirely foreign to the others, and yet Colonial. It is heavier in detail and of a later period. The composition, however, lends itself to far better effects than may be at first realized, and as the others had their individuality, so has this its unlimited opportunities.

The Sills doorway, at Sillsville, is of a design seldom used, and the broad, flat pilaster with channelled rosette was originally under a hood projecting from the house proper. The doors themselves are the original ones and are very good in their panelled composition. The double doors, however, were seldom used on Colonial houses, being of Dutch origin, and were evidently incorporated into this Colonial doorway by a Dutch settler.

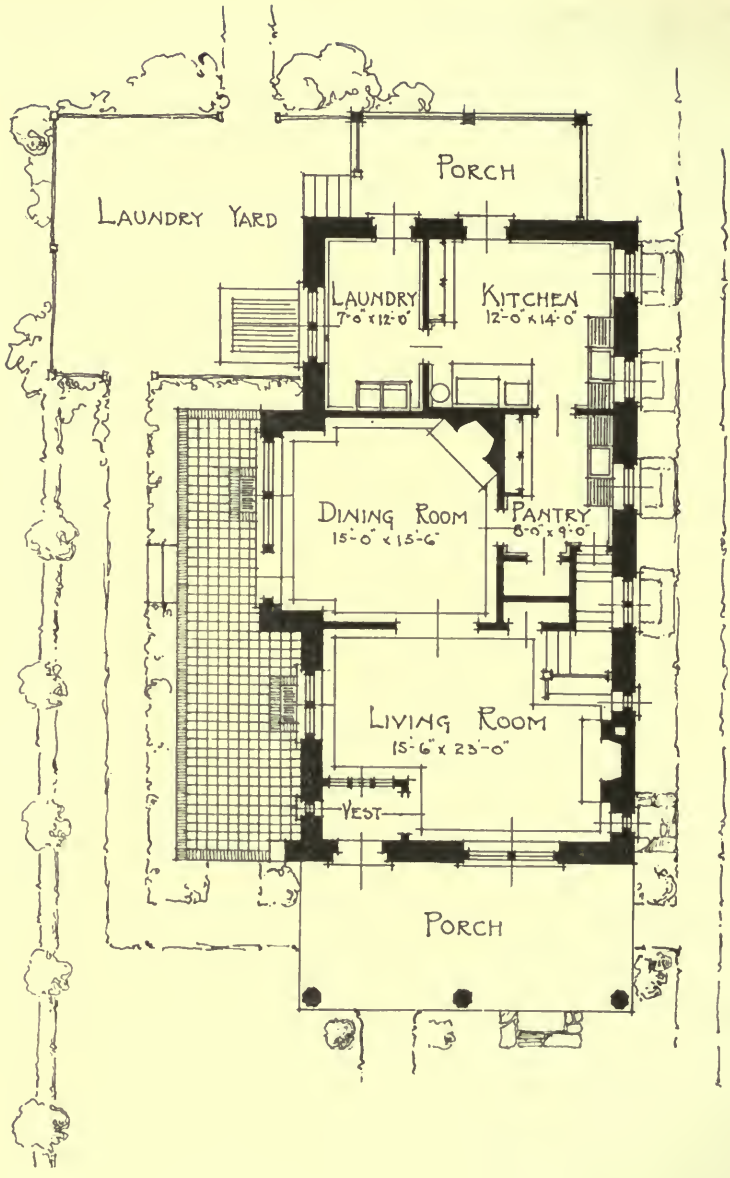
An interesting door is that of the church at Avon, with detail not unlike that of some doors found in New York City. The beaded pilaster and soffit of the arch are charming, and the moulded members of the cap and base have that reaching effect so often adopted by Colonial builders in copies of the classic mouldings.

Our small selection of photographs and details show decided differences in handling. Each doorway is of a type peculiar to itself, yet purely Colonial in feeling. The number of doorway examples procurable from Colonial work would fill pages, while examples of variable designs in buildings would fill but little space. The doorway received the greater detailed attention, making it the color note in the design. The study of ornament was given unstintingly to the doorway, the hospitable Colonial doorway, which leads to the fireside.

# PORTFOLIO OF CVRRENT ARCHITECTVRE



HOUSE AT NO. 20 BENEZET STREET, CHESTNUT HILL, PA. DUHRING, OKIE AND ZIEGLER, ARCHITECTS.




FIRST FLOOR PLAN OF NO. 20 BENEZET STREET, CHESTNUT HILL, PA. DUHRING, OKIE AND ZIEGLER, ARCHITECTS.

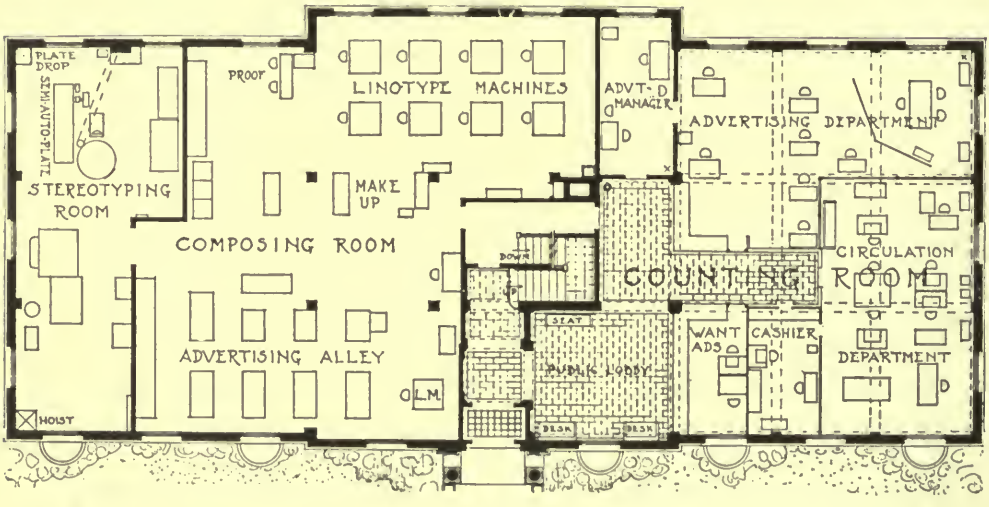


LIVING ROOM FIREPLACE, NO. 20 BENEZET STREET, CHESTNUT HILL, PA.
Duhring, Okie and Ziegler, Architects.



A SECOND FLOOR ROOM AT NO. 20 BENEZET STREET, CHESTNUT HILL, PA.
Duhring, Okie and Ziegler, Architects.





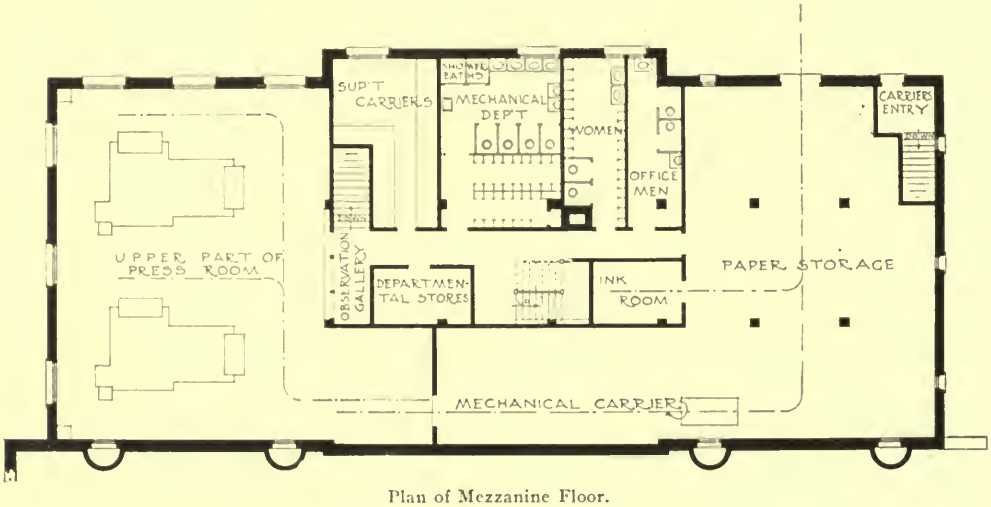

VIEW AND GROUND FLOOR PLAN OF THE NEWS-PRESS BUILDING, ST. JOSEPH, MO. ECKEL & ALDRICH, ARCHITECTS.



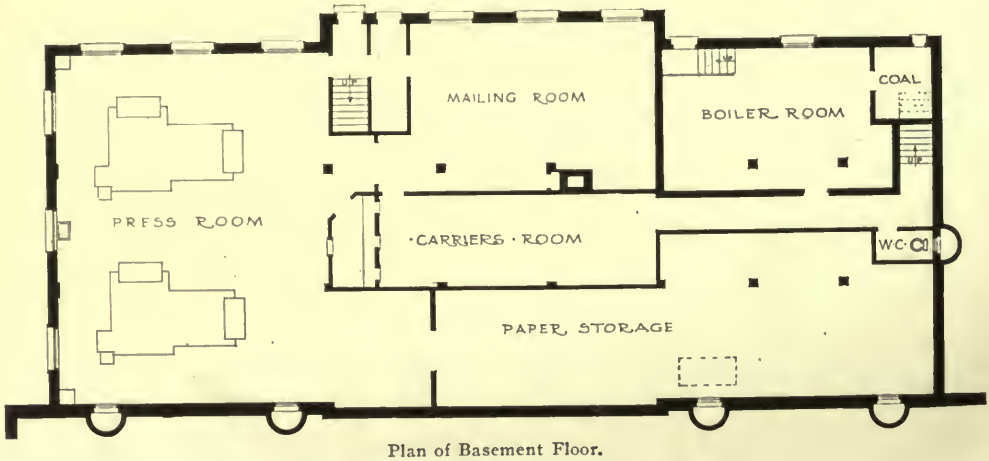
DETAIL—THE NEWS-PRESS BUILDING, ST. JOSEPH, MO. ECKEL & ALDRICH, ARCHITECTS.




Plan of Second Floor.

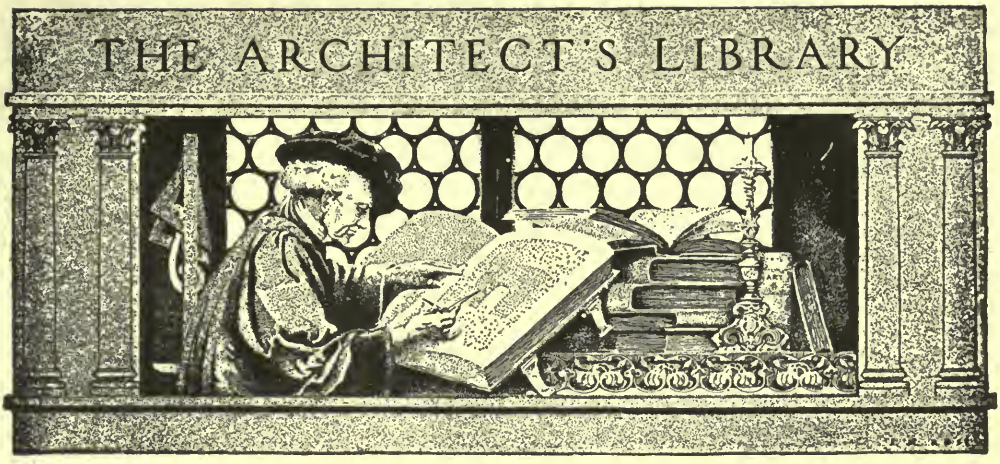



Plan of Mezzanine Floor.




Plan of Basement Floor.

THE NEWS-PRESS BUILDING, ST. JOSEPH, MO.
Eckel & Aldrich, Architects.




# BOOKS ON MEDIEVAL ARCHITECTURE

By RICHARD FRANZ BACH

Curator, School of Architecture, Columbia University

PART II.

TO Winston's *Hints on Glass Painting,* published in 1847, and Fowler's praiseworthy *Engravings of Mosaic Pavements and Stained Class,* published in 1805, is now added a third volume devoted to the glass art in England. It is Philip Nelson's *Ancient Painted Glass in England,* 1170-1500 (George H. Doran Company, New York, and Methuen and Company, London; octavo, pp. xvii-280, 33 plates, $3). This volume is not the effusion of a medieval enthusiast, like that of M. Mâle just reviewed, but rather a detailed chronological study of English glass of the Middle Ages from the late twelfth to the beginning of the sixteenth century. The author has done his work in a painstaking fashion; leaving no stone unturned in his search for all possible material. Fortunately he writes as one personally familiar with all the important glasses mentioned in his text. Mr. Nelson has encountered, as has many another searcher in the rich field of English Gothic art, untold obstacles and causes of unconscious errors in present judgment due on the one hand to destruction and neglect and on the other hand to the benighted efforts of self-styled "restorers," unbridled archæological fanatics of another day, happily past. Two interesting chapters added to the historical sequence on church glass are those on "English Domestic Glass" and on the "Vicissitudes of Ancient Glass." Too little has yet been written on the former of these subjects and, incidentally, on the development of the English heraldic windows, which are among the most interesting features of certain manor houses. More than half of the volume is assigned to pages of "County Lists of Ancient Glass," and endless alphabetical arrangement that leads us to marvel at the great number of windows that have outlived wanton destruction, carelessness and nineteenth century restoration. There is an appendix on this matter of restoration and also a detailed index. Color plates in such a book as this are bound to come amiss, for we have not yet devised a process of reproducing perfectly the effect of color due to transparency by means of polychrome plates in which the effects must be due to reflection. However, this handicap must not be permitted to militate against the general utility of Mr. Nel-

son's book; it will surely prove a valuable architect's handbook of study and travel in England.

Miss Helen Marshall Pratt, author of *The Cathedral Churches of England,* has now published more particular studies on the British national sepulchre under the title *Westminster Abbey; Its Architecture, History and Monuments* (Duffield and Company, New York; 12mo, two volumes, pp. 865, ill.; $4.50). To chronicle the life history of a structure in which the ideals and very existence of a nation for a period of a thousand years have been focused demands untiring study and a hardy pen. Miss Pratt has well acquitted herself of an exacting task. She has been at great pains to work out faithfully the historical and ecclesiologic background which must temper the progress of such a building, and her care in this respect will give an added charm to the Abbey for many a reader, especially for Americans, and will determine in great measure the lasting quality of her book. The volumes are profusely illustrated; there are appendices restating in tabulated form the history of the building itself and its accessory fabric, and giving lists of abbots and deans. There is also an exhaustive index and an exceptionally good bibliography. We can commend this work as one of the class of *Cathedrals and Cloisters of Northern France,* reviewed elsewhere, not excessively technical, nor deeply archæological, nor in any sense controversial; it is simply historical and all architectural uncertainty is left for more professional but less readable publications. The Abbey has not often had so careful a historian.

In *The English Parish Church; An Account of the Chief Building Types and of Their Materials During Nine Centuries* (Charles Scribner's Sons, New York, and B. T. Batsford, London; octavo, pp. xix-338, ill.; $3), Mr. J. Charles Cox has given us an altogether useful volume upon a subject not generally granted its due importance in English architectural history. Mr. Francis Bond, in *English Church Architecture,* has also expanded upon the merits of the English parish church, but Mr. Cox has at last brought together in a separate treatise the whole study of plan, style and materials in buildings of this type, so that it may once more assume its proper place as a determining phase of English medieval art.

To begin with, "the parish, with its church and priest, was an arrangement specially devised to meet the needs of the country rather than the city," and was developed directly from the early practice of attaching chaplains to lordly manors. The growing power of the church soon detached the chaplain, who served the retainers as well as the lords, from the manor house and placed him in charge of his own church edifice, which duly became the religious center for a more or less loosely defined district. The district may at times have included several manors, and its presiding priest was of the secular as distinguished from the monastic or regular clergy.

The parish church was the most democratic factor in English feudal life; at parish meetings lord and tenant, villein and serf met on equal footing. Furthermore the church building was erected in close proximity to any public buildings of which the community might boast and in towns the houses of the citizens clustered closely about it. In times of danger from fire, riot, robbery or conquest public and personal treasures were stored in the church, while deeds and other valuable writings were placed in the parish chest for safe keeping. Contracts were signed in the church porch; agreements concerning the parish at large were sworn to on the altar itself. The church porch was also the scene of the coroner's inquest in cases of violent death in the parish. To these many public uses should also be added that of sheltering fugitives at a time when capital punishment was meted out to the smallest offender.

For many years students endeavored to read the significance of the parish church in arcades, windows, mouldings and the like; while the real life of buildings of this type, as Mr. Cox points out, is to be sought in plan development. The plan was divided, as a general rule, into nave and sanctuary, although numerous

examples occur in which an intermediate chancel appears. There are also many larger parish churches, especially those in city centres, whose plans show nave, transepts, sanctuary and lantern tower. Each of these types has its variants; hybrid plans, accomplished by bringing together parts of the three types or their variants, or by differing dispositions of towers or of chapels, contribute an infinite variety which is at first confusing. Mention should also be made of a possible fourth type, the circular churches, such as St. Sepulchre's, Northampton. Of these there are but four extant. Good illustrations of the other fundamental types are easily found. The simple nave and chancel plan appears at Chithurst, Sussex, or at Little Braxted, Essex, the first square ended and the latter with apsidal eastern termination. Such examples date chiefly from the twelfth century, as do likewise those of the second type. This has a triple plan division, e.g., nave, chancel, sanctuary, and is well shown at Kilpeck, Herefordshire, or, with chancel and sanctuary combined and a tower replacing the former, at Stewkley, Buckinghamshire. The third type leads us at once into the history of the transept—placed properly in Byzantine and Early Christian Europe—and its variations are too many to be adequately substantiated by less than a round dozen of illustrations; fairly typical are Witney in Oxfordshire, Uffington in Berkshire, or Old Basing in Hampshire.

Having thus set forth the various type forms of plan which characterize the English parish church, and having shown how the simplest of these types may develop into the most complex in the course of its life history, Mr. Cox undertakes to explain in the same systematic fashion the evolution of aisles, clearstories and chapels. Other sections of the excellent chapter on plan are assigned to studies of the cross plan, the tower, the porch, vestry and ambulatory.

A long chapter is next devoted to "Architectural styles in the English parish church." Mr. Cox recognizes seven steps in stylistic growth: 1, Saxon; 2. Norman; 3. Transitional; 4. Early English; 5. Geometrical; 6. Decorated; 7. Perpendicular. This classification carries his study from the Romano-British church excavated at Silchester in 1892, a truly pre-Saxon structure, as well as Brixworth and Earl's Barton Tower at one end, to the fine examples at Grantham, Lincolnshire, at Stratford-on-Avon, and that of Saint Nicholas, King's Lynn at the other, and covers the whole development of vaulting, tracery and carved ornament.

The chapter on building materials is of great value. This side of the question of medieval work has received the minimum of attention in the past; and Mr. Cox's findings in this direction furnish an important contribution toward the revived study of the parish church. Stone, flint, brick and plaster are considered in detail, with their many and varied illustrations, while the section on wood as a structural material is enlivened by interesting discussions concerning doors and timber roofs.

This volume is without doubt the best presentation that the English parish church has yet enjoyed. It maintains the excellent quality of Mr. Cox's earlier book on *English Church Furniture,*—to which he devotes but little attention in the volume under discussion,—as well as the recognized standard of the Scribner-Batsford publications. There are over two hundred and seventy illustrations, a register of churches by counties and an excellent index; the volume lacks only a bibliography, which, in the first separate and complete treatment of the subject, would have been particularly in place.

Certain architectural books of definitely assured quality defy the accumulation of fresh archæological data. Such was Gaston Maspero's *Manual of Egyptian Archaeology,* recently republished by Putnam's, and another such is George Edmund Street's *Some Account of Gothic Architecture in Spain.* Works of this category may be reissued and re-edited, but to gather the material afresh for a new book in fields thus already covered would be gratuitous labor. Street's book is now issued in two volumes under the editorship of Georgiana Goddard King (E. P. Dutton, New York, and J. M. Dent & Sons, London; 12mo, pp. 356 and 352, ill.; $2). Fortunately the text has been held inviolate unless it was nec-

essary to bring it to date; and, we venture to say, wisely, the scope of the book has been considerably widened and its value heightened by Miss King's grasp and understanding of the subject as well as of her author. The additions to the text are not many, for, says the editor, Street was very thorough and Spain is very slow. What is more, the clearness of Street's vision has given a permanence to the truths that he saw in the stones which later critics and writers can only echo. The original illustrations from Street's sketches have been retained and the editor's notes have been set apart at the end of each chapter. We might counsel a similiar good judgment for all prospective editors of recognized works, for a careless or unscrupulous editor is poor sauce to good meat. The present editor has gone about her work in an efficient manner and her additions are made with a briskness that characterizes the handbook; Street never meant his *Account* to be anything else but a handbook. "Baedeker is for the best part carved out of Street" and Street must be made to fill the gaps in the modern guide. The format of the new edition, which is slight and easily handled, renders it eminently useful for this purpose, although it has fallen into the usual evil of small crowded type which makes the notes, at least, troublesome reading. We should also have appreciated a few modern photographic illustrations. But these defects are readily overlooked. We are glad to welcome this and other editions of Street, as we should new editions of Piranesi or of DuCerceau; students need them and architectural books of quality are too few in this country.

*A Guide to Gothic Architecture* by Mr. T. Francis Bumpus (Dodd, Mead and Company, New York; octavo, pp. xii-359, ill.; $3), leads us to expect in its title a terse general text book. Instead, the author devotes three hundred pages to the history of English architecture, already adequately treated by Francis Bond and others, and recalling somewhat his *Cathedrals of England;* while only fifty pages remain for a short summary account of the style elswhere. Although there are over one hundred and forty illustrations, these are indistinct and of small scale; while only a very few poorly drawn plans appear. The text is well written, however, and set in large type. There is also a glossary of architectural terms and a brief index.

Mr. William Gorham Rice sounds a fresh and attractive theme in his *Carillons of Belgium and Holland; Tower Music in the Low Countries* (John Lane Company, New York and London; octavo, pp. 232, ill.; $1.50). It is remarkable that a subject of such interest and historic value should so long have escaped the writers, especially since Mr. Rice records nearly sixty carillons in Holland and about fifty in Belgium. The author explains at length the mechanism, method of ringing and history of the bells and of the quaint traditional occupation of carilloneur, which, like that of bell founder, is an honorable family occupation handed on through succeeding generations. Extensive appendices contain lists of carillons in the Low Countries and elsewhere in Europe, as well as in the United States.

A new book on the *Lombard Towns of Italy, or The Cities of Ancient Lombardy* (Dodd, Mead and Company, New York; 12mo, pp. xvii-590, ill.; $1.75), completes Mr. Egerton R. Williams' trilogy of volumes on Italian cities of which the others bear the titles *The Hill Towns of Italy* and *The Plain Towns of Italy*, dealing respectively with the less known cities of the Apennines and the region north of Rome, and of Venetia. Mr. Williams has set out to write a guide book and has succeeded admirably. He has also adopted the guide book size for his work and in this respect the present volume is an improvement upon its predecessors. There is a good map of Lombardy and a thorough index. Books of this kind are to be recommended for the use of the architect, for they offer whenever required the necessary jog to the memory that would entail much searching in a larger work. They offer also in a concise form the historic features of a given structure, names of architects and dates, which are invariably buried in controversy in the more directly architectural publications.




**A Water Color Sketch in Terra-Cotta.**

The little building of the Edison shops on Fifth Avenue, just below Forty-first Street, has all the freshness and sparkle of a water color sketch. It is full of interest and the personality of its authors. But one cannot help feeling that the detail of the top story and the cornice do not seem to be altogether in harmony with that of the lower stories. One wonders whether they were not detailed on different sheets and not seen together until the whole was in place. The modelling of the terra cotta in flat relief, the texture of the terra cotta, and the use of gold in connection with this material are all of great interest.

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**England's Imminent Italian Revival.**

An English contemporary confides to us its suspicion that there may be some truth in the rumor of another Italian revival in England. A glorious age, this, when one may proclaim a revival; when we may run the gamut of the architectural records of the past, and deck out a tradition in modern materials without a hint of modern interpretation. We may yet have a stylistic arbiter, who shall dictate the progress of the orderly repetition of dead forms, a sort of Paul Poiret of stone and steel. Says the Architects' and Builders' Journal: "The spirit is yet but moving on the face of the waters. But soon the new thing will be made manifest, and perchance we shall be harking back once more to Letarouilly . . ." Indeed, so long as we add so little of the personality of our time to the types we find in past styles, we might as well hark back to Churriguera. Perhaps after we have gone the rounds of reviving once more we shall have had time to devote to an architectural twentieth century. In this country, at least, we have the greatest opportunity, and, what is more, we have a saving eclecticism of taste to fall back upon.

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**A Venial Professional Transgression.**

Two major causes have at last been fixed upon for the present weakened condition of old St. Paul's, London. The piers are in critical state because Wren determined to use softer stone in place of the specified Portland stone, which required much time in transit under contemporary conditions. What is more, the great chain which binds the stone work at the base of the dome has been found to be rusting. Mr. Marvyn Macartney has in an official capacity investigated these weaknesses, which have been the cause of a growing uneasiness in London, and the burden of his report seems to show, between the lines, that Wren was actuated by the most human desire that ever moved an architect to commit a professional sin. He wanted to see his masterwork completed within his lifetime. No doubt he valued it even higher than his projected scheme for laying out London anew after the memorable devastation of 1666. For the long years from 1675 to 1710 he worked upon this building with unflagging devotion, feeling no doubt from the outset that it was destined to be the focus of the English Renaissance in church building; and at the end the greatest pleasure that could come to a man engaged upon great work was vouchsafed him. The Underground was not within his ken and the pleasure of posterity in his building evidently clashed in his mind with his personal wish to witness

the dedication of a completed St. Paul's. The artist's dream sought its realization and succeeded. Nor should we impugn his morals, for he was impelled by the most praiseworthy of professional weaknesses.

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**The Arch of Constantine.**

The secret of the Arch of Constantine has at last been explained. Professor Arthur L Frothingham, an indefatigable student of Roman archaeology, with the assistance of the Italian government, in the person of Commendatore Corrado Ricci, has made an extensive examination of the structure. The investigation included a detailed study of the reliefs on the arch at close range and, as far as possible, of the masonry. Basing his conclusions chiefly upon an intimate and comprehensive understanding of Roman sculpture, Professor Frothingham has published in the American Journal of Archaeology a series of papers demonstrating that the old theory of a reconstruction of one of the Trajan arches, either that in the Via Appia or that in the Forum of Trajan, is untenable. The arch in question was dedicated to Constantine in 313, but this could not have been an original dedication, since such arches were voted only in connection with a triumph, which in terms of Roman law was passed upon by the Senate and connoted the conquest of a foreign foe. Constantine had waged no war of foreign conquest, and his greatest military exploit was that which culminated in the defeat of Maxentius at the Milvian Bridge. It was there, incidentally, that his conversion to the Christian faith took tangible form, for it was under the *labarum*, bearing the emblem of Christianity that his soldiers achieved the victory.

But if the arch was not primarily dedicated to Constantine the Great, what previous occasion had caused it to be built? The solution is that in the case of Constantine we deal with a rededication, and that therefore the arch was erected for an earlier emperor. But arches were justified only by the pleasure of the Senate of the Imperial City; and their destruction depended also upon that pleasure. An arch or other memorial might remain standing for all time as a record of the glory of a ruler, but if the surfeit of his victories developed in him the germ of tyranny, the Senate could cause his monuments to be cast down and his effigy to be mutilated. This was authorized by that governing body in the form of the *memoriae damnatio*, a decree which implied the wanton destruction of all memorials of the tyrant and the defacing of his images; the structures so treated also became no man's property, and stood uncared for as an index of popular disfavor.

The investigator's study of the reliefs and of the technique of their carving led him to ascribe the construction of the arch to the time of Domitian, who was emperor from 81 to 96 A. D., over two hundred years before the reign of Constantine. This emperor had made conquests in the east and in his case also the Senate had voted that the infamous name be erased from the monuments. Among the monuments to suffer from the denunciation and consequent mutilation was the present arch, which stood thereafter for many years unclaimed. Reliefs of the intervening period show it in position, and the carvings in the arch itself are assuredly of the earlier time, harking back to Greek suggestions or actual workmanship. The inscriptions, the heads of Domitian, as well as other injured parts were in all cases carved anew and certain medallions added. The mode of insertion of these medallions betrays their later provenience, since the regular practice of Roman construction is not adhered to, as would be imperative in the case of a single uniform structure. These alterations were made in the time of Constantine; for when it was found desirable to honor him for his final overthrow of all six rivals for the imperial throne, the iron-bound rule of Roman law precluded the erection of a new arch of triumph. Therefore the expedient was hit upon of rededicating the old Domitianic arch, and a historic example was thus provided of obedience to the letter of the law.

R. F. B.

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